

KNOW

HIV Prevention Education

2002 Revised Edition, Reprinted 2004
An HIV and AIDS Curriculum Manual

For Health Care Facility Employees



Mary Selecky, Secretary

**Washington State Department of Health
HIV Prevention & Education Services
KNOW Curriculum
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The 2002 KNOW Revision matches the outline of required topics for 4-hour and 7-hour licensing, which appear on the following page.

**WASHINGTON STATE DEPARTMENT OF HEALTH
OUTLINE OF HIV/AIDS CURRICULUM TOPICS**

The following are the curriculum topics for an HIV/AIDS education program. Selection of topics may be made to meet specific licensing boards' requirements. Unless otherwise specified, all six topic areas must be covered for the 7-hour licensing requirements. Topic areas I, II, V, and VI must be covered for the 4-hour licensing requirements and for non-licensed health care facility employees (who have no specific hourly requirements). Please consult the Department of Licensing at (360) 236-4700 with specific questions about hourly requirements.

- I. Etiology and epidemiology of HIV
 - A. Etiology
 - B. Reported AIDS cases in the United States and Washington State
 - C. Risk populations/behaviors
- II. Transmission and infection control
 - A. Transmission of HIV
 - B. Infection Control Precautions
 - C. Factors affecting risk for transmission
 - D. Risks for transmission to health care worker
- III. Testing and counseling
 - A. HIV test information
 - B. Pre-test counseling
 - C. Post-test counseling
- IV. Clinical manifestations and treatment
 - A. Clinical manifestations of HIV infection
 - B. Case management
 - C. Physical care
 - D. Psychosocial care
 - E. Home care
 - F. Resources
- V. Legal and ethical issues
 - A. Confidentiality as defined in the AIDS omnibus bill (RCW and WAC)
 - B. Informed consent
 - C. Legal reporting requirements
 - D. Ethical issues
 - E. Civil rights
- VI. Psychosocial issues
 - A. Personal impact of HIV continuum
 - B. The human response to death and dying
 - C. Issues for care providers
 - D. Family issues
 - E. Special populations

Please note that these curriculum requirements may not fulfill the needs of your particular certification or licensure. Funeral directors and embalmers are under the jurisdiction of the Department of Licensing and may have additional requirements. Drug, Alcohol and Substance Abuse counselors are required to have additional, specialized training. Emergency Medical Services workers have additional annual training requirements. Please check with the entity that licenses or certifies you, or call the Department of Health's HIV/AIDS Hotline for referral at: 800-272-2437.

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Definition of HIV and AIDS

Definition

HIV stands for:
Human
Immunodeficiency
Virus

The Human Immunodeficiency Virus (HIV) attacks the immune system, causing deficiency. HIV damages the body's ability to fight diseases and infections.

Without a healthy, functioning immune system, a person may become vulnerable to infections by bacteria, other viruses and disease-causing organisms. These infections may cause life-threatening illnesses.

Definition of AIDS

AIDS stands for:

Acquired
Immuno**D**eficiency (sometimes Immune Deficiency)
Syndrome.

ACQUIRED: The disease is not passed casually from one person to another. It is not hereditary. The virus has to enter the body through the bloodstream.

IMMUNODEFICIENCY: The immune system is the body's natural ability to protect itself against infections and diseases. The virus affects the cells of the immune system, and the body may have difficulty fighting off infectious diseases. This causes a "deficient" status of the body's immune system.

SYNDROME: HIV infection causes a combination of symptoms, diseases and infections.

AIDS is a complex condition characterized by the collapse of the body's natural immunity against disease. Because of the breakdown of the immune system, people with AIDS are vulnerable to unusual infections or diseases known as "opportunistic" diseases. These diseases usually pose little or no threat to persons with healthy immune systems.

AIDS is a result of an infectious virus called HIV. Medical treatments can delay the onset of AIDS.

Diagnosis

The diagnosis of AIDS requires a positive HIV antibody test or evidence of HIV infection and the appearance of some very specific conditions/diseases. Only a licensed medical provider can make an AIDS diagnosis. HIV infection is not necessarily the same thing as AIDS. All people diagnosed with AIDS have HIV, but not all people with HIV have reached an AIDS diagnosis.

How HIV Works in the Body

T-Helper lymphocyte

When HIV enters the bloodstream, the virus starts seeking a particular form of white blood cell (lymphocyte) essential to the functioning of the immune system. This cell is called a "T-Helper lymphocyte." One of its functions is to "orchestrate" the immune system in the event of attack from harmful foreign invaders (bacteria, viruses, and other disease-causing organisms). This T-Helper lymphocyte cell may also be called the T4 or the CD4 cell.

HIV antibodies

When the virus makes contact with the T-cell, the T-cell sends signals to other cells which produce antibodies. Antibodies are produced by the immune system to help get rid of specific foreign invaders that can cause disease.

Producing antibodies is an essential function of our immune systems. The body makes a specific antibody for each disease. For example, if we are exposed to measles virus, the immune system will develop antibodies specifically designed to attack the measles virus. Polio antibodies fight polio virus. When our immune system is working correctly, it protects against these foreign invaders.

What is unusual and frustrating about HIV is that the antibodies produced to fight the virus are not able to do so, since HIV captures the cells that signal antibodies to be produced. This results in the eventual decline of the immune system.

"Window period"

This is the period of time after the virus enters the body and attacks the T4 cells. During this time, the body produces antibodies to the virus. It may take between two weeks to six months for antibodies to develop. During this time, the person is "infectious," meaning s/he can pass the virus to someone else, and will remain infectious throughout life. However, the person may not have produced sufficient antibodies to be detectable on an HIV antibody test. A newly infected person can infect a partner **before** antibodies develop, when high amounts of virus in the blood are present.

Incubation period

The interval between HIV infection and the appearance of the first symptoms. It may be several months to many years before persistent symptoms occur.

Latency period

Without antiretroviral therapy, there is an average of ten years between the time a person is infected with HIV and the start of persistent symptoms of "AIDS." During this time, an HIV-infected person looks and feels fine, but the virus is replicating and slowly destroying T4 cells and the immune system.

At any time after infection, people can infect others through unprotected anal, vaginal or oral sexual intercourse and sharing of injection equipment. The virus can also be passed from an infected woman to her baby during pregnancy, the birth, or through breast-feeding.

The Origin of HIV**Where did HIV originate?**

Since HIV was discovered in 1983, researchers have worked to pinpoint the origin of the virus. The most commonly accepted theory is that HIV came from a simian (monkey) virus that spread to humans in Africa, in the 1930's - 1940's.

HIV transmission has been driven by changes in migration, housing, travel, sexual practices, drug use, war, and economics that have affected both Africa and the entire world since 1940.

HIV strains and subtypes

HIV has divided into two primary strains: HIV-1 and HIV-2. HIV-1 is found throughout the world. HIV-2 is found primarily in West Africa, where the virus may have been in circulation since the 1960s - 1970s.

Both HIV-1 and HIV-2 have several subtypes. It is virtually certain that more undiscovered subtypes are in existence now. It is also probable that more HIV subtypes will evolve in the future. As of 2001, blood testing in the United States can detect both strains and all known subtypes of HIV.

Epidemiology of HIV and AIDS

Epidemiology is defined as "the study of how disease is distributed in populations and of the factors that influence or determine this distribution." Epidemiologists try to discover why a disease develops in some people and not in others.

AIDS cases first recognized

AIDS was first recognized in the United States in 1981. In Washington State, the first reported case of AIDS was in 1982. Since then, the number of AIDS cases has continued to increase both in the U.S. and other countries. In 1983, what we now call HIV was recognized as the cause of AIDS.

HIV infection knows no boundaries

People who are infected with HIV come from all races, all countries, sexual orientations, genders, and income levels.

Most HIV-infected people do not know their status

Globally, most of the people who are infected with HIV have not been tested, and are unaware that they are living with the virus. A quarter to a third of people with HIV in Washington State, do not know they are infected.

HIV & AIDS cases

The number of HIV-infected people worldwide has grown dramatically. In the year 2002, it is estimated that 12,000 persons living in Washington State are infected with HIV. HIV cases only became reportable to the Department of Health in the fall of 1999. AIDS cases have been reportable since 1984. Contact the State AIDS Hotline at 1-800-272-2437 for updated information on reported AIDS cases in Washington.

The U.S. Centers for Disease Control and Prevention (CDC) estimates that there are between 650,000 and 900,000 persons infected with HIV in the United States. Additionally, it is estimated that 40,000 persons in the United States become newly infected with HIV each year. Half of the new infections in the U.S. are among people under the age of 25, and the majority of young people are infected sexually.

In the U.S., there are close to 40,000 people dying of AIDS each year in the U.S. As therapies have improved, fewer people have died of AIDS each year. However, the treatments have not reduced the number of new infections.

HIV & AIDS cases continued

The United Nations AIDS Program estimates there were 36.1 million people in the world living with HIV or AIDS in 2000. An estimated 5.3 million people worldwide became infected with HIV in 2000. Half of these new infections were in people between the ages of 15-24. There were 3 million deaths worldwide from AIDS in 2000.

For current HIV and AIDS statistics, visit these websites:

<http://www.doh.wa.gov/cfh/hiv.htm> (go to Prevention & Education)

<http://hivinsite.ucsf.edu/>

<http://www.cdc.gov/>

Internet access can be obtained through local libraries. If you are unable to access the internet, contact the Washington State HIV/AIDS hotline at 1-800-272-2437.

Decrease in AIDS deaths in wealthier countries

The discovery of antiviral "combination" drug therapies in 1996 resulted in a dramatic decrease in the number of deaths due to AIDS (among persons taking the drug therapies).

The unfortunate truth is that many people who have access to the drug therapies may not benefit from them, or may not be able to tolerate the side effects. The medications are expensive and require strict dosing schedules. In developing countries, due to lack of access to health care systems and cost, many people with HIV have no access to the newer drug therapies.

HIV and AIDS cases are reportable

As previously mentioned, AIDS and symptomatic HIV infections have been reportable (meaning physicians must confidentially report any cases among their patients) to the Washington State Dept. of Health since 1984 and 1993, respectively. Please see the legal section of this curriculum starting on page 72 for more information. HIV cases have been reportable in many states for several years. Reporting of new HIV infections has been required in Washington State since September, 1999.

Transmission and Infection Control Section

Necessary Conditions for Infection with HIV

HIV is a relatively fragile virus, which is not spread by casual contact. HIV is not easy "to catch." It must be *acquired*. In order for HIV to be transmitted, three conditions must occur: there must be **an HIV source**; there must be a **sufficient dose of virus**; and there must be **access to the bloodstream** of another person.

HIV source and body fluids that can transmit HIV

Anyone infected with the virus can be an HIV source. Transmission occurs primarily through **infected blood, semen, vaginal secretions or breast milk**. Sweat, tears, saliva, urine and feces are not capable of transmitting HIV unless visibly contaminated with blood. In settings such as hospital operating rooms, other fluids, like cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid and amniotic fluid may be considered infectious if the source is HIV positive. These fluids are generally not found outside the hospital setting, so we consider the most common fluids -- blood, semen, vaginal secretions and breast milk -- as infectious in the "real world."

Sufficient Dose

"Sufficient dose" refers to the concentration and amount of HIV necessary for infection to occur. As previously mentioned, outside of the laboratory or medical operation situations, **ONLY** blood, semen, vaginal fluids and breast milk are considered to be infectious for HIV.

Blood

Access to another person's bloodstream involves behaviors or circumstances that place someone at risk for infectious fluid entering their bloodstream. The most common of the risk behaviors are **unprotected sexual intercourse (anal, vaginal, oral) with an infected person**, and the **use of contaminated injection equipment for use in injecting drugs**.

HIV transmission may occur during practices such as tattooing, blood-sharing activities such as "blood brothers" rituals, or any other type of ritualistic ceremonies where blood is exchanged or unsterilized equipment contaminated with blood is shared.

HIV transmission may also occur in occupational settings. This will be discussed later in this section, on page 25.

HIV versus hepatitis viability

HIV is considered to be a fragile virus when exposed to air and room temperatures. Hepatitis B (HBV) and C (HCV) are both considered "stronger" viruses that can remain infectious for a longer period of time. When these viruses are outside the human body, much depends on environmental factors (heat, cold, exposure to oxygen, etc.). HBV and HCV will be discussed later in this manual.

All used syringes, needles, blood or body fluid spills should be considered potentially infectious, and should be treated using Standard Precautions, also commonly known as universal precautions. Standard and universal Precautions are discussed in the Bloodborne Pathogens section on page 19.

Casual Contact

Workplace situations

HIV is not transmitted through casual contact in the workplace. Workplace exposures occur through an unintentional needlestick injury or potentially through a splash with potentially infectious blood or blood-contaminated material. HIV is not transmitted through the air.

Sneezing, breathing and coughing do not transmit HIV. Touching, hugging and shaking hands do not transmit HIV. HIV transmission is not possible from food in a restaurant that is prepared or served by an HIV-infected employee.

No cases of HIV transmission have been linked to sharing computers, food, telephones, paper, water fountains, swimming pools, bathrooms, desks, office furniture, toilet seats, showers, tools, equipment, coffee pots or eating facilities. However, personal items, which may be contaminated with blood, including but not limited to razors, toothbrushes and sex toys, should not be shared.

Children

There have been no cases of HIV transmission by children playing, eating, sleeping, kissing and hugging.

Unusual cases of HIV transmission

To date, there have been less than a dozen known cases of HIV transmission that have occurred in household settings in the U.S. and other countries. Reports of these cases have been thoroughly investigated by the CDC. The researchers determined that the transmissions were caused by sharing a razor contaminated with infected blood, the exposure of

Unusual cases of HIV transmission continued

infected blood to cuts and broken skin, and possibly deep kissing involving a couple who both had bleeding gums and poor dental hygiene. It is important to remember that these cases were extremely unusual. Sensible precautions with bleeding wounds and cuts and not sharing personal hygiene items would have prevented these cases of infection.

There are also isolated cases of transmission from health care workers to patients. To date, there were three instances where transmission of HIV could only be tracked to the HIV-infected doctor, dentist or nurse treating the patient. At least one of these cases occurred prior to the implementation of strict equipment disinfection.

Biting

Biting poses very little risk of HIV transmission. The possibility only exists if the person who is biting and the person who is bitten have an exchange of blood (such as through bleeding gums or open sores in the mouth.) Bites may transmit other infections, and should be treated immediately by thoroughly washing the bitten skin with soap and warm water, and disinfecting with antibiotic skin ointment.

HIV Transmission

People may become infected with HIV if they engage in specific behaviors that put them at risk, or if they are exposed through needlestick injuries (usually in a healthcare setting.) Other blood contact with mucous membranes or non-intact skin provides a possible, but not probable, chance of transmission.

How is HIV transmitted?

HIV is transmitted through:

- Unprotected **anal, vaginal and oral intercourse**
- **Sharing needles** or other injection equipment
- A **mother passing the virus to her baby** either before or during birth
- An infected woman **breastfeeding** her infant
- **Transfusion** of HIV-infected blood or blood products (prior to 1986)
- Accidental **needlestick injuries**, or infected body fluid coming into contact with the broken skin or mucous membranes of another person (as with healthcare workers)
- Sharing razors or toothbrushes, if infected blood from one person is deposited on the toothbrush or razor, and the blood enters the bloodstream of another person.

HIV transmission requirements

The transmission of HIV depends upon:

- The availability of the infectious agent in sufficient quantity
- the viability of the infectious agent (how strong it is)
- the virulence of the infectious agent (how infectious it is)
- the ability of the infectious agent to reach the blood stream, mucous membranes or broken skin of a potential host (i.e., getting into another person's body)

One of the predictors of how infectious an HIV-positive person is is their viral load - how much HIV is present in the bloodstream. Studies show a clear connection between higher viral load in the blood and increased transmissibility of HIV.

Historic causes of HIV transmission

Prior to the availability of a test for HIV antibodies, HIV was transmitted by:

- artificial insemination
- blood or blood products transfusions
- organ transplants

Testing for HIV began in 1985 has almost completely eliminated these risks for transmission in developed countries.

Probability of HIV transmission from one HIV exposure

The CDC has estimated the following probabilities of infection following ONE exposure to HIV:

- Contaminated blood transfusion (prior to 1986) 95%
HIV infection rate
- One intravenous syringe or needle exposure 0.67%
- One percutaneous exposure (e.g. a needlestick) 0.4%
- One episode of receptive anal sexual intercourse 0.1%-3%
- One episode of receptive vaginal intercourse 0.1%-0.2%
- One episode of insertive vaginal intercourse 0.03%-0.09%

A 1% risk means 1 chance in 100 for infection to occur. A .10% risk means 1 chance in 1,000. There are no published estimates of the risk for transmission from receptive oral sex or insertive anal sex.

Sexual intercourse

HIV can enter the bloodstream through mucous membranes, breaks, sores and cuts in the mouth, anus, vagina or penis. Anal, vaginal and oral intercourse (both receptive and penetrative) can transmit HIV from person to person.

Anal intercourse

Unprotected anal intercourse is considered to be the greatest sexual risk for transmitting HIV. Anal intercourse frequently results in tears of mucous membranes, which makes it very easy for the virus to enter the bloodstream. The receptive partner ("bottom") is considered to be at more risk of getting HIV (if the virus is present.) Risks may vary for the insertive ("top") partner.

Vaginal intercourse

Unprotected vaginal intercourse with the exchange of semen, pre-ejaculate fluid (pre-cum), menstrual blood or vaginal fluids is also a risk for HIV transmission.

Studies have shown that women are more likely to become infected with HIV through vaginal sex than a man. The larger amount of mucous membrane surface area of the vagina is a probable reason for women's greater rate of HIV infection from their male partners.

Oral intercourse

Oral sex (mouth to penis, mouth to vagina, mouth to rectum) is considered a risky behavior for HIV transmission because of the exchange of semen, menstrual blood, and/or vaginal fluids that may occur. Studies reported in February 2000 show that oral sex can definitively pass HIV from infected partner to uninfected partner.

The person who places their mouth on the partner's genitals is at higher risk for HIV infection than is the "receiving" partner. The actual risk for HIV transmission to persons who are the receptive partner in unprotected oral sex is unclear.

Sharing needles and drug injection equipment

Sharing injection needles, syringes, etc. with an HIV-infected person can put HIV directly into the user's bloodstream and is the behavior which most efficiently transmits HIV, HBV and HCV.

"Indirect Sharing"

Indirect sharing occurs when drug injectors share injection paraphernalia and/or divide a shared or jointly purchased drug while preparing and injecting it. The paraphernalia that carries the potential for transmission are the syringe, needle, "cooker", cotton, and/or rinse water. Sharing these items (sometimes called "works") may transmit HIV or other bacteria and viruses.

“Indirect Sharing” continued

Examples of indirect sharing:

- Squirting the drug back (from a dirty syringe) into the drug cooker and/or someone else's syringe.
- Sharing a common filter and/or rinse water.

HIV and pregnancy

An HIV-infected woman may transmit the virus to her baby during pregnancy, during the birth process, and/or following pregnancy by breastfeeding. Again, one of the predictors of how infectious the woman will be to her baby is her viral load (how much HIV is present in her bloodstream). Women with new or recent infections, or people in later stages of AIDS tend to have higher viral loads and may be more infectious.

In 1994, researchers discovered that a course of the antiretroviral drug AZT (zidovudine) significantly reduced the transmission of HIV from woman to baby. In 2002, medications such as AZT and others are used during pregnancy and delivery to prevent transmission of HIV.

Currently, HIV is transmitted from an HIV-infected woman to her baby in about 25% of pregnancies if intervention with antiretroviral medications does not occur. Because of the widespread use of AZT by HIV-infected pregnant women in the U.S., the perinatal transmission rate has dropped dramatically, and is now less than 10% in the U.S., especially if the woman's health care is monitored closely and antiretroviral medications are used during pregnancy and/or delivery. In some pregnancies, caesarian section (C-section) may be recommended to reduce the risk of transmission from woman to baby. Advice about medications and C-section should be given on a case-by-case basis by a medical provider with experience in treating HIV+ pregnant women.

Washington state law requires pregnant women to be counseled regarding risks around HIV and offered voluntary HIV testing.

Breastfeeding

Breastfeeding is an established risk for HIV transmission. One study in Africa showed that the rate of transmission of HIV from infected mother to her child was 21% from breastfeeding. Data from New York Department of Health

Breastfeeding continued

studies show that in the U.S., breastfeeding can add an additional 14% rate of transmission of HIV from an infected woman to her child.

In the U.S., doctors recommend that a women who knows she is HIV-positive *should not* breastfeed her infant. Because of the lack of clean water and the cost of infant formula in developing countries, HIV-infected mothers in those areas may not have a choice whether or not to breastfeed their child(ren). More research is needed on ways to reduce the risk of maternal transmission through breastfeeding.

Transfusions of blood or blood products

Transmission by contaminated blood or blood products occurred in the United States before March, 1985. In 1999, about 1% of national AIDS cases were caused by transfusions or use of contaminated blood products. The majority of those cases were in people who received blood or blood products before 1985.

Donor screening, blood testing and other processing measures have reduced the risk of tranfusion-caused HIV transmission to between 1 in 450,000 to 1 case in 600,000 transfusions in the U.S. In the U.S., donating blood is always safe, because sterile needles and equipment are used.

Lifelong infection

At this time, HIV infection is lifelong, meaning that once a person becomes infected with HIV, their blood, semen, vaginal secretions and/or breast milk will always be potentially infectious.

Transmission of multi- drug resistant forms of HIV

There is evidence of transmission of multi-drug resistant forms of HIV. People who have been infected with HIV and have used a number of the available antiretroviral medicines may transmit forms of HIV that are resistant to some of these available drug therapies. This reduces the treatments available for the newly-HIV-infected person. A discussion of treatments for HIV is found on page 54.

Factors Affecting HIV Transmission

The presence of other sexually transmitted diseases (STDs) increases the risk for HIV transmission, because the infected person may have a much larger number of white blood cells (infected with HIV) present at the sore or infected area(s).

Presence of other STDs

The infected person's immune system may also be less able to suppress or combat the HIV infection. Finally, the sores or lesions from STDs break down the protective surface of the skin or mucous membrane, which makes the infected person more vulnerable to other infections. More information on STDs can be found starting on page 61.

Acute infection and/or high viral load

Acute HIV infection (the first few weeks after infection with HIV) is a time when a person may not know that s/he is infected. However, the amount of virus (or viral load) in their bloodstream can be extremely high. This may make their blood, semen, vaginal fluids and/or breast milk more infectious for HIV transmission. Antiretroviral therapy can reduce a person's viral load, if the correct combination is used and the person adheres to the dosing schedule.

Multiple partners

Having "multiple partners" for drug injection and/or sexual intercourse increases the chances of being exposed to a person infected with HIV. Persons who have unprotected sex with multiple partners are considered to be at high risk for HIV infection. In some studies, the CDC defines multiple partners as six or more partners in a year. However, someone who has one partner may still be at risk if the person is HIV-positive.

Use of non-injecting drugs

Use of other substances, including alcohol and non-injected "street drugs," can also put a person at risk for getting HIV. Impaired judgement may increase the likelihood that a person will take risks (having unprotected sex, sharing needles) or may place the person in unsafe situations. Additionally, some substances have physiological and biological effects on the body, including masking of pain and the creation of sores on the mouth and genitals, which can create additional "openings" for HIV and other sexually transmitted diseases.

Gender and equality issues

Lack of power in a relationship can affect a person's ability to insist on sexual protection, such as the use of condoms. Women are often socially and economically dependent upon men in many countries. This can make them unable to "negotiate" condom use or leave a relationship that puts them at risk.

In some cultures, females are not encouraged to learn about their bodies, sex, birth control, or other sexuality topics. Other cultures promote the value of the male having multiple sexual partners, while discouraging the same behavior in females.

Risk Reduction Methods

Methods for reducing the risk of sexual and drug-related transmission of HIV include:

Sexual abstinence

Sexual abstinence (not engaging in anal, vaginal or oral intercourse or other sexual activities where blood, semen or vaginal fluid can enter the body) is a completely safe and 100% effective method for preventing the sexual transmission of HIV.

Some people may choose to not have penetrative sexual intercourse (oral, anal or vaginal). This practice will not transmit HIV, provided that there is no exchange of blood, semen, vaginal fluids or breast milk in the sexual contact.

Non-penetrative sexual intercourse may still be a risk factor for the transmission of other sexually transmitted diseases.

Monogamous relationships

Monogamous long-term relationships (having sex with only one person who only has sex with you), is another choice to prevent/reduce the risk of HIV infection. If neither partner is infected with HIV or other STDs, and neither has other sexual or injection equipment-sharing contacts, then neither partner is at risk of exposure to HIV or other STDs. It is crucial that both partners be tested for HIV and STDs and remain monogamous.

Limiting partners

The decision to limit the number of sexual or drug-injecting partners may reduce the risk of HIV transmission, but is not a guarantee of safety. The fewer the partners, the greater the reduction of risk.

Safer sexual practices

Latex condoms, when used correctly and consistently during sexual intercourse, (anal, vaginal and oral) are highly effective in preventing the transmission of HIV.

Safer sexual practices continued

Only water-based lubricants, not oil-based lubricants like petroleum jelly or cooking oils, should be used to prevent tearing of latex condoms. Other safer sexual measures include:

- **Polyurethane condoms**

Male - These condoms are made of a soft plastic. They look like latex condoms but are thinner. Lab tests show that sperm and viruses (like HIV) cannot pass through polyurethane.

Female or insertive - The female/insertive condom fits inside the vagina or anus. It is made of polyurethane, which blocks sperm and viruses (like HIV). These condoms may be inserted several hours before intercourse.

- **Dental dams/other barriers**

Dental dams, large pieces of new, unused, clear, non-microwaveable plastic wrap, and latex condoms may be used to provide a barrier to reduce the risk of HIV transmission during oral intercourse on a female. The latex condom should have the tip cut off, then cut down one side, before use. This results in a latex square. Water-based lubricant may be used with the dental dams, plastic wrap or cut-open condoms to enhance sensitivity and reduce friction.

- **Natural membrane condoms**

Natural membrane condoms (“skins”) are useful for preventing pregnancies and some STDs, such as syphilis. **They do not provide protection from HIV, HBV and some other STDs.**

If two people are infected with HIV, do they still need to have protected sex?

Many people believe it's safe for two people who are both infected with HIV to have unprotected sex with each other. Using latex condoms even when both partners are HIV-positive is still advised. Each additional exposure to the virus may further weaken an immune system already damaged by HIV. There is also the possibility of passing other STDs through unprotected sex.

Avoidance of injecting drug use

The avoidance of injecting drugs is another way to avoid the risk of transmission of HIV.

If entering drug treatment or abstaining from using injecting drugs is not possible, then using a clean needle each time and not sharing injection equipment is better than sharing needles. This includes people who use needles to inject insulin, vitamins, steroids or prescription or non-prescription drugs.

Syringe exchange

Public support for syringe exchange, also known as needle exchange, has grown in recent years. People who trade in their used syringes/needles for clean syringes/needles significantly reduce their risk for sharing needles and becoming infected with HIV or hepatitis. Syringe exchanges are also referral sources for drug treatment. Many people who began trading syringes were able to access drug treatment through the intervention of the syringe exchange staff and are now no longer using drugs.

Many local health departments in Washington State, some in conjunction with other organizations, operate syringe exchanges in their communities. For more information, contact your local health department/district's HIV/AIDS Program.

Using bleach and water to clean syringes

If a drug user cannot avoid sharing syringes, the use of full strength bleach and clean water has been recommended to kill HIV in syringes/needles. **This method is not likely to prevent the transmission of HBV or HCV.** These viruses are much stronger and are unlikely to be killed by a brief exposure to bleach.

Because the prevalence of HBV and HCV infection is high among injecting drug users, **it is safest to always use new, sterile needles and syringes.** They should also avoid sharing the cotton, cooker, water, spoons and other "works," which may also be contaminated with blood.

Cleaning syringes, continued

If there is no possible way to obtain new needles, the directions for using bleach to clean syringes follows:

- 1) Fill the syringe completely with water. Shake and tap it vigorously to loosen any blood clots. Shoot out the bloody water. Continue this rinsing procedure until there is no "pinkness" or visible blood inside the syringe.
- 2) Completely fill the syringe with fresh bleach. Make certain that the bleach touches all the inside surface of the syringe. Keep the bleach inside the syringe for **a minimum of 30 seconds**. Shake the syringe, then squirt out the used bleach.
- 3) Repeating Step 2 may provide additional benefit.
- 4) Rinse out the syringe with clean water. Shake the syringe, then squirt out the water.

It is important to follow these steps exactly, because inadequate cleaning can result in the possibility of HIV infection. **Always do the final rinse with water!**

Bloodborne Pathogen Standards

The following standards are mandated by the Occupational Safety and Health Administration (OSHA) and Washington Industrial Safety and Health Act (WISHA). They are enforced by the Department of Labor and Industries (L&I), following recommendations by the CDC. Please check with your agencies to make sure you are in compliance with the requirements mandated by Washington Administrative Code (WAC) 296-62-08001. Failure to comply may result in citations or penalties. WISHA Regional Directive (WRD) 11.40, effective in 2000, requires that all employers comply with the following standards.

This is a brief summary, and is not meant to replace or supplant required Bloodborne Pathogens training. For more information or assistance, contact a L & I consultant in your area. Check the blue government section of the phone book for the office nearest you, or call L&I's 24-hour toll-free line 1-800-4-BE-SAFE. For Internet access, go to www.lni.wa.gov/WISHA.

Scope of WISHA enforced procedures

The enforcement procedures contained in WRD 11.40 are used to inspect any employer where employees' jobs involve potential exposure to blood and other potentially infectious materials (OPIM). Occupational groups that have been widely recognized as having potential exposure to HBV/HCV/HIV include, but are not limited to, health care employees, law enforcement, fire, ambulance, and other emergency response and public service employees.

WRD 11.40 establishes policies and provides clarifications to ensure uniform procedures are followed during inspections and consultations for the Occupational Exposure to Bloodborne Pathogens Standard, Part J, (WAC) 296-62-08001.

Bloodborne pathogens

While HBV and HIV are specifically identified in the standard, "Bloodborne Pathogens" include any pathogen present in human blood or other potentially infectious materials (OPIM) that can infect and cause disease in people exposed to the pathogen. Bloodborne pathogens may also include HCV, Hepatitis D, malaria, syphilis, babesiosis, brucellosis, leptospirosis, arboviral infections, relapsing fever, Creutzfeldt-Jakob disease, adult T-cell leukemia/lymphoma (caused by HTLV-I), HTLV-I associated myelopathy, diseases associated with HTLV-II, and viral hemorrhagic fever.

According to the CDC, HCV infection is the most common chronic bloodborne infection in the United States. HCV is a viral infection of the liver transmitted primarily by exposure to blood. More information on HCV is available starting on page 67.

Exposure Control Plan

Each employer covered under WAC 296.62.08001 must develop an Exposure Control Plan. The plan requires the employer to identify those tasks and procedures in which occupational exposure may occur. It also requires the employer to identify the individuals who will receive the training, protective equipment, vaccination, and other benefits of the standard.

This Exposure Control Plan shall contain at least the following elements:

- Those job classifications and tasks in which employees have the potential for or documented occupational exposures. The exposure determination shall have been made without taking into consideration the use of personal protective clothing or equipment. It is important to include those employees who are required or expected to administer first aid.
- The schedule and method of implementation for WAC 296-62-08000(4) through 08001(8) in a manner appropriate to the circumstances of the particular workplace.

Bodily fluids

Bodily fluids that have been recognized as OPIM and linked to the transmission of HIV, HBV and HCV, and to which Standard Precautions and Universal Precautions apply are: blood, semen, blood products, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, amniotic fluid, and specimens with concentrated HIV, HBV and HCV viruses.

Universal Precautions/ Standard Precautions

"Universal precautions," as defined by CDC, are designed to prevent transmission of bloodborne pathogens in health care and other settings. Under universal precautions, blood/OPIM of all patients should always be considered potentially infectious for HIV and other pathogens. "Standard Precautions" is a newer definition that hospitals and other health care settings are moving toward. Standard Precautions include all recommendations made for Universal Precautions **plus** body substance isolation (BSI) when OPIM is present.

Universal Precautions/ Standard Precautions continued

Although the terms are not interchangeable, most people are more familiar with the term "universal" precautions. For this context, we will use "Standard" Precautions, although there may be some settings (like daycare) where body substance isolation may not be needed.

Universal and Standard Precautions involve the use of protective barriers, defined below in the "personal protective equipment" section, to reduce the risk of exposure of the employee's skin or mucous membranes to OPIM. It is also recommended that all health care workers take precautions to prevent injuries caused by needles, scalpels, and other sharp instruments or devices. Both Universal and Standard Precautions apply to blood and OPIM listed above in the "bodily fluids" section.

Personal protective Equipment

Gloves, masks, protective eyewear and chin-length plastic face shields are examples of personal protective equipment (PPE). PPE shall be provided and worn by employees in all instances where they will or may come into contact with blood or OPIM. This includes, but is not limited to dentistry, phlebotomy or processing of any bodily fluid specimen, and postmortem (after death) procedures.

Traditionally, latex gloves have been advised to use when dealing with blood or OPIM. However, there have been documented cases of people with allergies to latex. In most circumstances, nitrile and vinyl gloves meet the definition of "appropriate" gloves and may be used in place of latex gloves. Employers are required to provide PPE alternatives to employees with latex and other sensitivities.

Engineering and work practice controls

Engineering and work practice controls shall be used in preference to personal protective equipment to minimize or eliminate employee exposure. There are now many safer needle devices available. Employers must include employees in ongoing evaluation of engineering controls and implement appropriate engineering controls whenever feasible. Evaluation and implementation of these controls must be documented in the Exposure Control Plan.

Handwashing techniques

Employers shall provide handwashing facilities which are accessible to employees. According to the Bloodborne Pathogens Standard, handwashing must be performed:

- After removal of gloves and/or other protective equipment.
- Immediately after hand contact with blood or other infectious materials.
- Upon leaving the work area.

It is also recommended that handwashing be performed before and after patient contact and after using restroom facilities.

Proper handwashing technique involves the following:

- Using soap, warm (almost hot) water, and good friction, make sure to scrub the top, back, and all sides of the fingers.
- Lather well and rinse for at least 10 seconds. When rinsing, begin at the fingertips, so that the dirty water runs down and off the hands from the wrists. It is preferable to use a pump-type of liquid soap instead of bar hand soap.
- Dry hands on paper towels. Use the dry paper towels to turn off the faucets (don't touch with clean hands).

A waterless handwashing product should be made available for immediate use if a suitable sink is not readily available in the home or work setting. Please note that this procedure does not replace proper handwashing with soap and water. Check the manufacturer's directions for use.

People who have been exposed to body fluids should wash their hands BEFORE, as well as after, using the toilet.

The paper towel that was used to dry the hands may also be used to open the bathroom door, if necessary, before disposing of the towel.

It is advisable to keep fingernails short, and to wear a minimum of jewelry.

Sharp instruments and disposable items

Needles are NOT to be recapped, purposely bent or broken, removed from disposable syringes or otherwise manipulated by hand. After they are used, disposable syringes and needles, scalpel blades and other sharp items are to be placed in puncture-resistant, labeled containers for disposal.

Housekeeping

The work area is to be maintained in a clean and sanitary condition. The employer is required to determine and implement a written schedule for cleaning and disinfection

based on the location within the facility, type of surface to be cleaned, type of soil present and tasks or procedures being performed. All equipment, environmental and working surfaces must be properly cleaned and disinfected after contact with blood or OPIM.

Potentially contaminated broken glassware must be removed using mechanical means, like a brush and dustpan or vacuum cleaner.

Specimens of blood or OPIM must be placed in a closeable, labeled or color-coded leakproof container prior to being stored or transported.

Disinfectants

Chemical germicides and disinfectants used at recommended dilutions must be used to decontaminate spills of blood and other body fluids. Consult the Environmental Protection Agency (EPA) lists of registered sterilants, tuberculocidal disinfectants, and antimicrobials with HIV efficacy claims for verification that the disinfectant used is appropriate. The lists are available from the National Antimicrobial Information Network at (800) 447-6349 or <http://ace.orst.edu/info/nain.lists.htm>.

Laundry

Laundry that is or may be soiled with blood or OPIM, and/or may contain contaminated sharps, must be treated as though contaminated.

Contaminated laundry must be bagged at the location where it was used, and shall not be sorted or rinsed in patient-care areas. It must be placed and transported in bags that are labeled or color-coded (red-bagged) as required by WISHA.

**Laundry
continued**

Laundry workers must wear protective gloves and other appropriate personal protective clothing when handling potentially contaminated laundry. All contaminated laundry must be cleaned or laundered so that any infectious agents are destroyed.

Waste disposal

All infectious waste must be placed in closeable, leakproof containers or bags that are color-coded (red-bagged) or labeled as required by WISHA to prevent leakage during handling, storage and transport. Disposal of waste shall be in accordance with federal, state and local regulations.

Tags/Labels

Tags or labels must be used as a means to prevent accidental injury or illness to employees who are exposed to hazardous or potentially hazardous conditions, equipment or operations which are out of the ordinary, unexpected or not readily apparent. Tags must be used until the identified hazard is eliminated or the hazardous operation is completed.

All required tags must have the following:

- Tags must contain a signal word or symbol and a major message. The signal word shall be "BIOHAZARD", or the biological hazard symbol. The major message must indicate the specific hazardous condition or the instruction to be communicated to the employee.
- The signal word must be readable at a minimum of five feet or such greater distance as warranted by the hazard.
- The tag's major message must be presented in either pictographs, written text, or both.
- The signal word and the major message must be understandable to all employees who may be exposed to the identified hazard.
- All employees will be informed as to the meaning of the various tags used throughout the workplace and what special precautions are necessary.

Personal activities

Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in laboratories and other work areas where blood or OPIM are present.

Food and drink

Food and drink must not be stored in refrigerators, freezers or cabinets where blood or OPIM are stored, or in other areas of possible contamination.

Bloodborne Pathogen Training

All new employees or employees being transferred into jobs involving tasks or activities with potential exposure to blood/OPIM shall receive training in the Bloodborne Pathogen Standard at the time of initial assignment to the tasks where occupational exposure may occur. This training will include

information on the hazards associated with blood/OPIM, the protective measures to be taken to minimize the risk of occupational exposure, and information on the appropriate actions to take if an exposure occurs.

Retraining is required annually, or when changes in procedures or tasks affecting occupational exposure occur. As previously mentioned, the limited information in this section does not qualify for the full training.

Hepatitis B vaccination

All employees whose jobs involve participation in tasks or activities with exposure to blood/OPIM shall be offered the start of the Hepatitis B vaccination series within 10 working days of employment and/or new assignment. The vaccine will be provided free of charge. Serologic testing after vaccination (to ensure that the shots were effective) is recommended for all persons with occupational exposures.

Bloodborne pathogen transmission in water or sewage?

HIV, HBV and HCV are not transmitted by water. Any bloodborne pathogen introduced into a water source would be greatly diluted, making it noninfectious. One study found that HIV did survive in wastewater for up to 12 hours. However, the transmissibility of HIV in this situation is profoundly unlikely. There has never been a documented case of HIV transmission due to wastewater exposure.

**Bloodborne pathogen
transmission in water
or sewage?
continued**

Plumbers or other workers who are working on the plumbing of a clinic or hospital sewage system or "immediately downstream" should use protective equipment appropriate for bloodborne pathogen exposure. Plumbers working on a sewage line elsewhere are probably not at risk for exposure to bloodborne pathogens. However, sewage contains many other health hazards or pathogens besides HIV/HBV/HCV. Because of this, plumbers and other workers must be provided with protective equipment for that work.

Management, Reporting and Immediate Follow-up of Occupational Exposure to HIV/HBV/HCV and Other Potential Blood-borne Pathogens

**What are the risks of
infection from an
occupational exposure?**

The CDC states that the risks of infection varies case by case. Factors influencing the risk of infection from occupational exposure are: whether the exposure was from a hollow-bore needle or other sharp instrument; to intact skin or mucus membranes (such as the eyes, nose, mouth); the amount of blood that was involved and the amount of virus present in the source's blood.

**Risk of HIV
transmission**

The risk of HIV infection to a health care worker through a needlestick is less than 1%. Approximately 1 in 300 exposures through a needle or sharp instrument result in infection. The risks of HIV infection though splashes of blood to the eyes, nose or mouth is even smaller - approximately 1 in 1,000. There have been no reports of HIV transmission from blood contact with intact skin. There is a theoretical risk of blood contact to an area of skin that is damaged, or from a large area of skin covered in blood for a long period of time. In 2001, the CDC reported 56 documented cases and 138 possible cases of occupational exposure to HIV since reporting started in 1985.

**Risk of Hepatitis
B and C transmission**

The risk of getting HBV from a needlestick or cut is between 6-30%, unless the person exposed has been vaccinated. There are only a few studies regarding the risk of getting HCV from occupational exposure. The risk of getting HCV from a needlestick or cut is between 2-3%. The risk of getting HBV or HCV from a blood splash to the eyes, nose or mouth is possible but believed to be very small. As of 1999, about 800 health care workers a year are reported to be infected with HBV following occupational exposure. There are no exact estimates on how many health care workers contract HCV from an occupational exposure. To put this in perspective, the risk of a healthcare worker contracting HCV from an accidental needlestick is 20-40% greater than their risk of contracting HIV.

**Treatment after a
potential exposure**

FOLLOW THE PROTOCOL OF YOUR EMPLOYER. As soon as safely possible, wash the affected area(s). Application of antiseptics should not be a substitute for washing. It is recommended that any potentially contaminated clothing be removed as soon as possible. It is also recommended that you familiarize yourself with existing protocols and the location of emergency eyewash or showers and other stations within your facility.

**Mucous membrane
exposure**

If the exposure is to the eyes, nose or mouth, flush them continuously with water, saline or sterile irrigants for at least five minutes. The risk of contracting HIV through this type of exposure is estimated to be 0.09%

Needlestick injuries

Wash the exposed area with soap and clean water. Do not "milk" or squeeze the wound. There is no evidence that shows using antiseptics (like hydrogen peroxide) will reduce the risk of transmission for any bloodborne pathogens. In the event that the wound needs suturing, emergency treatment should be obtained. The risk of contracting HIV from this type of exposure is estimated to be 0.3%.

**Bite or scratch
wounds**

Exposure to saliva is not considered substantial unless there is visible contamination with blood. Wash the area with soap and water, and cover with a sterile dressing as appropriate. All bites should be evaluated by a health care professional.

Exposure to urine, vomit, or feces

Exposure to urine, feces, vomit or sputum is not considered substantial unless the fluid is visibly contaminated with blood. Follow normal procedures for cleaning these fluids.

Reporting the exposure

FOLLOW THE PROTOCOL OF YOUR EMPLOYER. The following general guidelines taken from the CDC are not meant to replace an existing protocol. After cleaning the exposed area as recommended above, report the exposure to the department or individual at your workplace that is responsible for managing exposure.

Obtain medical evaluation as soon as possible. Discuss with a healthcare professional the extent of the exposure, prophylaxis/prevention of other blood-borne pathogens, the need for a tetanus shot and other care.

Post-exposure prophylaxis

Post-exposure prophylaxis (PEP) provides anti-HIV medications to someone who has had a substantial exposure, usually to blood. PEP has been the standard of care for occupationally-exposed healthcare workers with substantial exposures since 1996. Animal models suggest that cellular HIV infection happens within 2 days of exposure to HIV. Virus in blood is detectable within 5 days. Therefore, PEP should be started as soon as possible, optimally within 2 hours, preferably within 24 hours of the exposure or as soon as possible and continued for 28 days. However, PEP for HIV does not provide prevention of other blood-borne diseases, like HBV or HCV.

HBV PEP for susceptible persons would include administration of hepatitis B immune globulin and HBV vaccine. This should occur as soon as possible and no later than 7 days post-exposure. In 2002, there are currently no recommendations for HCV exposure.

Because of the frequent advances in treatment, doses and medications are not listed here. Post-exposure prophylaxis can only be obtained from a licensed healthcare provider. Your facility may have recommendations and a chain of command in place for you to obtain PEP. After evaluation of the exposure route and other risk factors, certain anti-HIV medications may be prescribed.

Post-exposure prophylaxis continued

PEP is not as simple as swallowing one pill. The medications must be started within the first 2 hours if possible, and continued for 28 days. Many people experience significant medication side effects.

It is very important to report occupational exposure to the department at your workplace that is responsible for managing exposure. If post-exposure treatment is recommended, it should be started as soon as possible.

In rural areas, police, firefighters and other at-risk emergency providers should identify a 24-hour source for PEP. The national bloodborne pathogen hotline provides 24-hour consultation for clinicians who have been exposed on the job. Call 1-888-448-4911 for the latest information on prophylaxis for HIV, hepatitis, and other pathogens.

In addition, Washington state workers have a right to file a worker's compensation claim for exposure to bloodborne pathogens. Industrial insurance covers the cost of post-exposure prophylaxis and follow-up for the injured worker.

HIV/HBV/HCV testing post-exposure

If a medical professional determines that you have sustained an exposure which puts you at risk, you will be offered antibody testing for HIV, HBV and HCV, and HBV vaccine if needed. The HIV test does not show presence of HIV, rather it looks for antibodies (your body's reaction to HIV). It usually takes your body between two weeks and three months to produce antibodies to HIV. The initial test serves as a baseline; it will show whether you were infected with HIV before the exposure. You will need to retest in order to make sure you have not been infected. In 2001, the CDC recommended retesting at six weeks, 3 and 6 months after exposure. Testing for up to 12 months may be recommended for high risk exposures or when the source is documented to be infected with HIV. You should also discuss the need for a Hepatitis B titer test (if you have been vaccinated for HBV), tests for elevated liver enzymes and other available testing for other bloodborne pathogens.

Mandatory source testing

There are situations where health care workers and others are not aware of the HIV status of the individual to whose blood they have been exposed. Usually, you can't force someone to test for HIV and reveal their results to you.

**Mandatory source
testing
continued**

The Revised Code of Washington 70.24.340 provides for HIV antibody testing of a "source" - someone whose bodily fluids have come into contact with a law enforcement officer, fire fighter, health care provider or health care facility staff, and certain other professions.

If you experience an occupational substantial exposure to another person's blood or OPIM, you can request HIV testing of the source individual through your employer or local health officer.

Before the health officer will issue a health order for HIV testing of the source individual, s/he will first make the determination of whether a substantial exposure occurred, and if the exposure occurred on the job. Depending on the type of exposure and risks involved, the health officer may make the determination that source testing is unnecessary.

In the case of occupationally exposed health care workers, if the employer is unable to obtain permission of the source individual, the employer may request assistance from the local health officer provided the request is made within 7 days of the occurrence.

Source testing does not eliminate the need for baseline testing of the exposed individual for HIV, HBV, HCV and liver enzymes. Provision of PEP should also not be contingent upon the results of a source's test. Current wisdom indicates immediate provision of PEP in certain circumstances, with discontinuation of treatment based upon the source's test results.

**Non-occupational
exposure to HIV**

PEP for occupational exposure is standard, and its effectiveness has been documented. PEP for sexual exposure (assault or consenting) or for needle-sharing is not standard medical practice in many communities. Depending on your location in Washington State, providers may not even be familiar with the idea of providing PEP to people who have post-sexual exposure to HIV. The University of California at San Francisco has operated a PEP clinic for non-occupational exposure since 1997. For more information, call (415) 487-5538 or (415) 514-4PEP after hours.

Non-occupational exposure to HIV continued

Good places to start PEP include your local emergency room. In Seattle and Western Washington there are clinics that specifically treat HIV-positive people. You can get information about these clinics through Public Health Seattle-King County's website: www.metrokc.gov/health/news.

If your doctor has questions, he or she can call PEPLine, the University of California at San Francisco's hotline for clinicians - 1-888-HIV-4911. This is NOT a hotline for answering basic questions about HIV.

PEP should never be used for primary prevention of HIV. Unlike emergency contraception to prevent pregnancy, there are no good studies to show that PEP works for post-sexual exposure. It is a complicated combination of medicines that sometimes have serious side effects. Advice for counseling and PEP related to sexual assault is found in the Counseling and Testing section, starting on page 43.

Bloodborne Pathogen, Sanitary and Food Preparation Procedures for Homes and Home-like Settings

People who live or work in homes and home-like settings should practice good hygiene techniques in preparing food, handling body fluids and medical equipment. Cuts, accidents, or other circumstances can result in spills of blood/OPIM. These spills may be deposited upon carpeting, vinyl flooring, clothing, on a person's skin, or other surfaces. It is important that everyone, even young children, have a basic understanding that they should not put their bare hands in, or on, another person's blood. This section outlines practices for some commonly encountered situations.

Gloves

Some people have allergies to latex. Therefore, latex, nitrile or vinyl gloves may be used. Gloves should be worn in the following situations:

- Caretakers should wear gloves when they anticipate direct contact with any body substances (blood or OPIM)
- People should wear gloves when they anticipate contact with any non-intact skin.
- When you are through, carefully pull the gloves off, inside-out, one at a time, so that the contaminated surfaces are inside and you avoid contact with any potentially infectious material.

Gloves continued

- Gloves are not necessary for general care, or during casual contact (serving food, bathing intact skin.)
- Gloves should be changed, and hands washed as soon as possible between children, patients, etc.
- Never rub the eyes, mouth or face while wearing gloves.
- Latex gloves should never be washed and reused.

Handwashing Technique

Correct handwashing is extremely important. The steps to follow for good handwashing technique include:

- Use soap, warm (almost hot) water, and good friction, making sure to scrub the top, back, and all sides of the fingers.
- Lather well and rinse for at least 10 seconds. When rinsing, begin at the fingertips, so that the dirty water runs down and off the hands from the wrists. It is preferable to use a pump-type of liquid soap instead of bar hand soap.
- Dry hands on paper towels. Use the dry paper towels to turn off the faucets (don't touch with clean hands).

A waterless handwashing product should be made available for immediate use if a suitable sink is not readily available in the home or work setting. This product does not replace proper handwashing with soap and water. Refer to the manufacturer's directions for use.

People who have been exposed to body fluids should wash their hands **BEFORE**, as well as after, using the toilet.

The paper towel that was used to dry the hands may also be used to open the bathroom door, if necessary, before disposing of the towel.

Precautions with personal hygiene items

People **should not share** razors, toothbrushes, personal towels or washcloths, dental hygiene tools, vibrators, enema equipment or other personal care items.

Cleaning blood/OPIM from skin surfaces

Wear appropriate gloves. Use sterile gauze or other bandages, and follow normal first-aid techniques to stop the bleeding. After applying the bandage, remove the gloves slowly, so that fluid particles do not splatter or become aerosolized. Hands should be washed using good technique as soon as possible.

Cleaning body fluid spills on vinyl floors

Any broken glass should be swept up using a broom and dustpan, (never bare hands!) Empty the dustpan in a well-marked plastic bag or heavy-duty container. The body fluid spill may be pre-treated with full-strength liquid disinfectant or detergent. Next, wipe up the body fluid spill with either a mop and hot, soapy water, or appropriate gloves and paper towels. Dispose of the paper towels in the plastic bag. Use a good disinfectant (e.g., household bleach 5.25% mixed fresh with water 1:10) to disinfect the area that the spill occurred. If a mop was used for the cleaning, soak it in a bucket of hot water and disinfectant for the recommended time. Empty the mop bucket water in the toilet, rather than a sink. Sponges and mops used to clean up body fluid spills should not be rinsed out in the kitchen sink, or in a location where food is prepared.

Cleaning body fluid spills on carpeting

Spills on carpeting continued

Pour dry kitty litter or other absorbent material on the spill to absorb the body fluid. Then pour full-strength liquid detergent on the carpet, which helps to disinfect the area. If there are pieces of broken glass present, the broom and dustpan method can be used next to sweep up the kitty litter and visible broken glass. Use carpet-safe liquid disinfectant instead of diluted bleach on the carpeting. Pour this carefully on the entire contaminated area; let it remain there for the time recommended by the manufacturer. Follow this by absorbing the spill with paper towels and sturdy rubber gloves. Vacuum normally afterwards.

Any debris, paper towels, or soiled kitty litter should be disposed of in a sealed plastic bag that has been placed inside another plastic garbage bag. Twist and seal the top of the second bag as well.

Cleaning clothes or other laundry in home settings

Clothes, washable uniforms, towels or other laundry that have been stained with blood/OPIM should be cleaned and disinfected before further use. If possible, have the person remove the clothing, or use appropriate gloves to assist with removing the clothes. If it is a distance to the washing machine, transport the soiled clothing items in a sturdy plastic bag. Next, place the items in the washing machine, and soak or wash the items in cold, soapy water to remove any blood from the fabric. Hot water permanently sets blood stains. Use hot soapy water for the next washing cycle, and include sufficient detergent, which will act as a disinfectant, in the water. Dry the items using a clothes dryer.

Cleaning clothes or other laundry in home settings continued

Wool clothing or uniforms may be rinsed with cold soapy water, then dry cleaned to remove and disinfect the stain.

Diaper changes

Care providers should use a new pair of appropriate gloves to change diapers. Gloves should be removed carefully and discarded in the appropriate receptacle. Hands should be washed immediately after changing the diaper. Disinfect the diapering surface afterwards. Cloth diapers should be washed in very hot water with detergent and a cup of bleach, and dried in a hot clothes dryer.

Cleaning sponges and mops

Sponges and mops that are used in a kitchen should not be used to clean body fluid spills or bathrooms. All sponges and mops should be disinfected routinely with a fresh bleach solution or another similar disinfectant.

Toilet/bedpan safety

It is safe to share toilets/toilet seats without special cleaning, unless the surface becomes contaminated with blood/OPIM. If this occurs, disinfect the surface by spraying on a solution of 1:10 bleach. Wearing gloves, wipe this away with disposable paper towels. Persons with open sores on their legs, thighs, or genitals should disinfect the toilet seat after each use.

Urinals and bedpans should not be shared between family members, unless they are thoroughly disinfected beforehand.

Thermometers

Electronic thermometers with disposable covers do not need to be cleaned between users, unless they are visibly soiled. Wipe the surface with a disinfectant solution if necessary. Glass thermometers should be washed with soap and warm water before and after each use. If it will be shared between family members, the thermometer should be soaked in 70-90% ethyl alcohol for 30 minutes, then rinsed under a stream of warm water between each use.

Pet care precautions

Certain animals may be health hazards for people with compromised immune systems. These animals include turtles, reptiles, birds, puppies and kittens under the age of eight months, wild animals, pets without current immunizations, and pets with illnesses of unknown origin.

Pet care precautions continued

Pet cages and cat litter boxes can harbor infectious, sometimes aerosolized organisms. These pet items should be cared for only by someone who is not immunocompromised.

If this is not possible, a mask with a sealable nose clip, and disposable latex gloves should be worn each time pet care is done. Follow all pet care with thorough handwashing.

Animals may carry a variety of diseases harmful to people with weakened immune systems. Some of these diseases may be passed by the animal licking their person's face or open wounds. Wash hands after stroking or other contact with pets. Keep cats' and dogs' nails trimmed. Wear latex gloves to clean up a pet's urine, feces, vomit, etc. The soiled area should be cleaned with a fresh solution of 1:10 bleach.

Pet food and water bowls should be regularly washed in warm, soapy water, and then rinsed. Cat litter boxes should be emptied out regularly and washed at least monthly.

Fish tanks should be kept clean. It is possible to order disposable latex "calf-birthing" gloves from a veterinarian for immunocompromised individuals. These gloves should offer protection from the organisms that are present in the fish tank.

Do not let your pet drink from the toilet, eat other animal's feces, any type of dead animal or garbage. It is best to restrict cats to the indoors only. Dogs should be kept indoors or on a leash.

Many communities have volunteer groups and veterinarians that will assist people with HIV take care of their pets, if needed. Do not hesitate to consult your veterinarian with your questions.

Kitchen safety and proper food preparation skills

- Wash hands thoroughly before preparing food.
- Use care when tasting food. Use a clean spoon to taste food. Wash the spoon after using it once.
- Persons with HIV infection should avoid unpasteurized milk, raw eggs or products that contain raw eggs, raw fish, and cracked or non-intact eggs. Cook all meat, eggs and fish thoroughly to kill any organisms that may be present in them. Wash fruits and vegetables thoroughly before eating.

Kitchen safety and proper food preparation skills continued

- Disinfect countertops, stoves, sinks, refrigerators, door handles and floors regularly. Use window screens to prevent insects from entering the room.
- Discard food that has expired or is past a safe storage date, shows signs of mold or smells bad.
- Use separate cutting boards for meat and for fruits and vegetables. Disinfect cutting boards frequently. Avoid wood cutting boards if possible.
- Kitchen garbage should be contained in a leak-proof, washable receptacle that is lined with a plastic bag. Seal the garbage liner bags and remove the garbage frequently.

How to Deal With Blood and Used Syringes in Parks, Public Restrooms, and other Public Settings

Over the years, it has become apparent that people in both rural and urban parts of Washington State are finding used syringes and other potentially infectious material in parks and public restrooms. Blood spills in public restrooms have caused great concern for the staff person(s) who have been asked to clean up the dangerous and unpleasant mess that is left behind. Here are some recommendations for safely dealing with these situations.

Found syringes in parks and other public locations

Used syringes that are tossed aside in parks, along roadsides, in laundromats, etc., present a real danger for accidental needlesticks. Unfortunately, young children in particular have been the recipients of needlesticks from used syringes.

Parents and other caregivers should make sure children understand two key points:

- Syringes are needed for the medical providers who give them injections to keep them healthy, or for pain medication. This is a proper use of syringes.
- If a child finds a syringe s/he should never touch it, but instead should immediately tell a responsible adult who is nearby. Used syringes are dangerous and are not toys!

Anyone with an accidental needlestick requires an assessment by a medical professional. The medical professional should make certain that the injured person had been vaccinated against Hepatitis B and tetanus; s/he may also recommend testing for HIV, HCV, and HBV.

Found syringes in parks and other public locations continued

If a child is involved and the parent or guardian is absolutely certain that the child did not have a needlestick, testing for HIV is not necessary, since handling a syringe is not a risk for HIV transmission. The risk of HIV infection to a health care worker from a needlestick containing HIV-positive blood is about 1 in 300, according to CDC data. Risks for infection with found syringes will depend on a variety of factors, including the amount of time the syringe was left out, presence of blood and the type of injury (scratch versus puncture.)

Safe disposal of found syringes

Found used syringes or needles present a risk for HIV, HBV, HCV and other pathogens. Police and public health departments are not available to dispose of these. The following method should provide protection for the person who is cleaning up and disposing of used syringes:

- Keep children away from the area of the used syringe until it is safely disposed of. Make certain that no other syringes are also in the area.
- If possible, spray the syringe first with a mixture of 1:10 bleach and water, or alternately, pour fresh bleach on the syringe to help disinfect its outer surface.
- Find a suitable disposal container with at least a one-inch opening, and that has a lid that will seal tightly, to place the syringe into. This could be an empty plastic laundry detergent, shampoo, pickle, oil or similar bottle or jar. If a glass jar is used, it should be placed into another plastic bucket or container that has a tight-fitting lid. Soda cans are **not** good containers to use for this purpose, because people often try to recycle discarded cans.
- It is best to wear a heavy pair of leather gloves and to use a pair of needle-nose, or similar pliers, to pick up the used syringe. The person who is picking up the syringe should hold it as far away from their body as is practical; they should also take extra care not to lose their grip and drop the syringe! The pliers offer distance from the syringe; the gloves offer some physical protection from the needle.
- After the syringe is placed in the bottle or jar, seal the lid tightly. It is preferable to find a disposal site that takes biohazardous waste - many drugstores and some hospitals will allow you to dispose of found needles. The sealed container should not be placed where children might open it.

Testing and Counseling Section

HIV antibody testing has been available since 1985. It is believed that many people who are HIV infected in the United States have not been tested, and are unaware of their HIV-positive status. Many of these people may not realize that they are infected with HIV until they present with symptoms of infection. Also, it is important for people to realize that a negative HIV test is not a safeguard if they engage in behaviors that put them at risk for HIV.

Types of Tests

There are several approved tests that are available to detect HIV antibodies. These tests determine HIV infection by detecting the presence of HIV antibodies produced by the immune system.

What type of HIV antibody tests are available?

The Food and Drug Administration (FDA) has approved several HIV antibody tests. Currently, they include blood, urine, rapid, oral mucosal transudate and home HIV antibody tests. At this time, these all utilize the EIA test method.

The EIA (ELISA) test

The first screening test done on a blood sample is called the EIA (Enzyme Linked Immunosorbent Assay), also called "ELISA." This test screens for the presence of antibodies to HIV. There is a small chance that the EIA may also detect proteins related to other autoimmune diseases. For this reason, Washington state law (WAC 246-100-207) prohibits and the CDC recommends against telling a person s/he is HIV-positive based only on EIA test results.

HIV Western Blot Assay

If a person has two reactive (positive) EIA tests on the same blood sample, a confirmatory test, such as the Western Blot test is done to confirm the presence of HIV antibodies. The HIV Western Blot detects antibodies to individual proteins that make up HIV. This test is much more specific and more costly than the EIA screening test.

Urine HIV test

A urine-based test for HIV antibodies is available for use only in physicians' offices or medical clinics at this time. It tests for HIV antibodies in the urine. It is important to note that, even though antibodies to HIV can be found in urine, urine is not considered a risk for transmitting the virus.

Urine HIV test continued

A positive urine HIV screening test must be confirmed with a Western Blot test, which can be done on the same specimen.

Oral fluid HIV test

This test detects HIV antibodies in the mucous membrane of the mouth, called oral mucosal transudate. It is important to note that, even though antibodies to HIV can be found in saliva and oral fluids, these are not considered a risk for transmitting the virus. The test kit uses a special collection device that looks like a toothbrush. No needles are necessary.

Any person testing positive with this test must have a Western blot test to confirm the results. The confirmatory test can be done on the same specimen.

Rapid HIV test

**Please see the Washington
State HIV Rapid Testing and
Counseling Guide: Updated
Information on Rapid
Testing at: http://www.doh.wa.gov/cfh/hiv_aids/prev_edu/rapid_testing_guide.htm**

The rapid HIV test that is usually used is a 20-minute HIV antibody test performed on a blood sample. Currently, the only licensed rapid test is the Single Use Diagnostic System for HIV-1 (SUDS). Any positive rapid test must be confirmed with a conventional Western Blot test.

The rapid test has been recommended for use on source patients in health care worker occupational exposures, so that the health care worker can make an informed decision regarding post-exposure treatment. The test is expensive and at this time is not generally available at public testing sites.

Home HIV test kits

Currently, the only licensed and FDA-approved test kit for home HIV antibody testing is manufactured by Home Access®. The test kit is sold in pharmacies, or may be ordered through a toll free number from Home Access®. The test requires a few drops of blood, which is mailed to the company in a safe mailer.

A confirmatory Western Blot test can be done on the same sample. The person calls the company to learn their results over the phone.

Internet test kits

Although other "home test" kits may be ordered over the internet, they may not be approved by the FDA. They are not guaranteed to be accurate. It is not recommended to use any test which has not been approved by the FDA.

Other tests for HIV

p24 antigen test

This blood test measures a core protein of HIV. This protein occurs during primary infection (the first few weeks of infection) but may disappear as soon as antibodies to the virus are present. Because of this, and because of the expense of the test, p24 antigen tests are currently only available in specific circumstances.

Plasma HIV RNA or proviral DNA tests

These blood tests may be run in people with suspected new HIV infection. They are expensive and not used as screening tests for the general public. However, anyone who has had a potential exposure to HIV through unprotected sex or sharing needles, and who presents with symptoms of primary infection (usually seen within the first two weeks of infection with HIV) should ask their medical practitioner if this test is advisable. Primary infection is discussed later in this manual on page 48.

HIV viral load test

This test measures the amount of HIV in an infected person's bloodstream. It is rarely used to diagnose HIV infection. It is most often used in individuals who are HIV-positive to measure the effectiveness of antiretroviral medications used to treat HIV infection.

How and where to get tested for HIV

Who should test for HIV?

Anyone who has put themselves at risk through anal, vaginal or oral sex, shared needles, or who has had an occupational exposure may benefit from HIV testing. Many people may have partners who have risk factors, and these people (along with their partners) should consider testing.

For occupational exposure, refer to your employer protocol or to the Infection Control section of this manual starting on page 6 for more information.

Where to test for HIV?

People may test for HIV at home, at public health departments, through their medical provider, family planning or sexually transmitted disease clinics, and in some cases at community clinics. Call the Washington State HIV/AIDS hotline at 1-800-272-2437 for a referral to a public health, family planning or community clinic in your county.

Confidential HIV testing

A confidential HIV test means the patient gives their real name, and the results of a test are known only to themselves and the healthcare provider or counselor who provides test results, medical care or prevention services to that person.

Positive HIV tests are now reportable to local public health officials. See page 72 in the Legal section of this manual for more information.

Anonymous HIV testing

An anonymous HIV antibody test means that the person who orders or performs the test does not maintain a record of the name of the person they are testing.

Public health departments in Washington State must make anonymous HIV testing reasonably available. Anonymous tests may also be available through Planned Parenthood or other health care clinics.

Informed consent required

HIV testing can only be done with the person's specific, consent. There are some rare exceptions, including source testing relating to occupation exposures and legally-mandated situations specified in Washington State law. See the Legal section of this curriculum, starting on page 72, for more information on mandatory testing.

HIV Antibody Test Results

A person who tests for HIV will receive either a negative, positive, or indeterminate result. It is important to remember that a person could test negative for HIV antibodies, but could be recently infected.

The "window period"

The window period is the time it takes for an HIV-infected person to develop antibodies to HIV. Newer, more sensitive HIV tests have reduced the window period to 2-12 weeks. The CDC still advises individuals that the window period could last as long as six months.

Standard advice for those considering HIV testing is to test three to six months after the last potential HIV exposure.

The "window period" continued

If you test before antibodies develop, you may need to be retested. Individuals who are testing because of occupational exposure may be told to test 12 months post-exposure.

People who are newly infected with HIV may have a large amount of virus in their blood. They are considered highly infectious for HIV. This means that an infected person may initially test negative for HIV antibodies but be more likely to be able to infect another person.

Negative Test Results

If the test result is negative, it means one of two things:

- Either the person is *not infected* with the virus, or
- The person *became infected recently* and is in the "window period."

Most people take between 2-12 weeks after becoming infected to produce enough antibodies to show up on the test. In rare cases, it may take as long as 6 months. If a person got infected last night and goes for testing today, the test will not be able to detect antibodies for this particular exposure.

If a person gets a negative test result and is concerned about a possible recent infection, s/he should test again three to six months from the date of last possible exposure, and practice safer behaviors until s/he gets the result of the next test.

A negative test result does **NOT** mean a person is immune to HIV. If risky behavior continues, infection may occur.

Positive test results

If the test result is reactive (positive), it shows the presence of HIV antibodies. A positive test result means that:

- A person is infected with HIV;
- This person can spread the virus to others through unsafe sexual practices, sharing contaminated injection equipment and/or breastfeeding; and
- The person is infected for life.

Indeterminate test results

Occasionally, a Western Blot test result will come back with an "indeterminate" or "inconclusive" test result. If a person has recently engaged in behaviors that put them at risk for getting HIV, it could mean that they are newly- infected with HIV and are developing antibodies.

Indeterminate test results can also be caused by several factors, including but not limited to pregnancy, autoimmune diseases, blood transfusions, recent influenza vaccinations, or organ transplants.

Persons who receive indeterminate HIV test results should retest in one, three and six months, depending on their particular risk. Retesting is recommended even if HIV infection is extremely unlikely.

Studies have shown that only around 20% of people with indeterminate tests go on to become "truly" positive. There are people who may remain indeterminate throughout their lives - these cases are extremely rare.

Advantages of early testing for HIV infection

The new drug therapies for HIV infection can sustain an infected person's health. Even if the HIV-positive person chooses not to start antiretroviral therapy, early detection of HIV will allow a person to receive medical treatment sooner, take better care of their immune system, and stay healthier longer. Additionally, early detection of HIV allows people to take precautions not to infect others.

Counseling and Testing

Washington State law (WAC 246-100-209) requires that counseling be an integral component of HIV testing.

HIV counseling

HIV counseling means counseling that is directed toward:

- Increasing the individual's understanding of HIV and AIDS;
- Assessing the individual's risk of acquiring and transmitting HIV;

HIV counseling continued

- Motivating and negotiating with the individual about behavior changes to reduce their risk of acquiring and/or transmitting HIV infection;
- Skills building (refusal and negotiation skills, how to use a condom, how to clean syringes, etc.); and
- Explaining the nature of the HIV test, including the possible need to retest.

Pre-test counseling

HIV pre-test counseling is defined in Washington State law (246-100-209) as counseling provided prior to HIV testing which helps an individual to understand ways to reduce the risk of HIV transmission.

According to Washington law (WAC-246-100-209) pre-test counseling must assess a person's individual risk for HIV and provide at least one individual counseling session prior to testing.

During that session the following is required to be provided during pretest counseling:

- 1) That anonymous testing is available and where to find it.
- 2) The nature, purpose, value and reason for the HIV test.
- 3) The possible effects of HIV testing and a positive HIV result related to employment, insurance, housing and other potential legal, social and personal consequences.
- 4) For persons at high risk for HIV infection:
 - Personalized risk reduction education including abstinence from sex or drugs, mutual monogamy, use of condoms consistently and correctly, cleaning works or using a syringe exchange.
 - The need to notify sex and/or needle sharing partners (including spouses), if the test is positive.

Pre-test counseling continued

- Not to donate blood or blood products.
- The possible need to re-test.

Persons providing counseling are also to provide a non-judgmental environment; develop and maintain a system for referrals; obtain informed consent for testing; and maintain disclosure and confidentiality consistent with WAC 246-101-120, WAC 246-101-520, and other sections of WAC 246-101.

Pretest counseling can be a time when patients learn about their personal risk of HIV and obtain skills-building (partner negotiation skills, correct condom or cleaning of injection drugs) to assist in their behavior change.

Post-test counseling

HIV post-test counseling is defined in Washington State law (246-100-209) as additional counseling following testing which will increase the individual's understanding of HIV infection, change the individual's behavior and, if necessary, encourage the individual to notify people with whom there has been contact capable of spreading HIV.

People providing post-test counseling must provide at least one individual counseling session at the time HIV results are disclosed for individuals testing positive for HIV or report behaviors that are at high risk for HIV transmission. In compliance with Washington State law, individuals should receive information outlined in pretest counseling, as appropriate.

Positive HIV test results must be reported confidentially to the state or local health officer, unless the individual has tested anonymously. People testing positive should be reminded about this reporting requirement.

People who have newly tested HIV-positive should also receive help notifying partners, including spouses. Providers must confirm those partners have been notified and/or seek agreement to refer the name of the individual to the local health officer for assistance in notifying partners.

Confidentiality of HIV testing

People who perform HIV counseling and testing in public health departments or health districts must sign strict confidentiality agreements. These agreements regulate the personal information that may be revealed in counseling and testing sessions, and test results.

HIV test results are kept in locked files, with only a few appropriate staff members having access to them. More information on confidentiality requirements can be found in the Legal section of this curriculum starting on page 72.

Pregnancy and HIV testing

Health care providers caring for pregnant patients are required by Washington State law to ensure HIV counseling for each pregnant woman who is seeking prenatal care (RCW 70.24.095 and WAC 246-100-208).

Many health care providers are encouraging all pregnant women to be tested for HIV because of a lack of awareness about risks. However, at this time testing for HIV during pregnancy still involves a separate consent. Women may not be "automatically" tested for HIV. HIV-infected women can reduce the chance of transmitting the virus to their children if they take AZT during pregnancy and delivery. See the Transmission and Infection Control section of this manual, pages 6-36, for more information.

Advice for victims of sexual assault

There are likely to be between 172,400 - 683,000 females raped each year in the U.S. Men can also be victims of sexual assault, but data and reporting are sketchy. Based on existing crime report data, an estimated 40% of female rape victims are under age 18; most sexual assault victims know their assailant. Apart from the emotional and physical trauma that accompany sexual assault, there are other considerations. Many victims do not report their attack to the police.

What are the risks of contracting HIV from a sexual assault?

According to CDC, the odds of HIV infection from a sexual assault in the U.S. are 2 in 1,000. There are additional risks for contracting other STDs, and females can become pregnant. Emergency contraception is part of the medical treatment for female rape victims. The emergency contraception hotline number, 1-888-668-2528, should be provided by telephone rape counselors or other counselors.

Should an assault survivor test for HIV, other STDs and pregnancy?

Most experts recommend that a sexual assault victim go directly to the nearest hospital emergency room, without changing their clothing, bathing or showering first. Trained staff in the emergency room will counsel the victim, and may also offer testing or referral for HIV, STDs and pregnancy. It is common practice for the emergency room physician to take DNA samples of blood or semen from the vagina, rectum, etc. which can be used as evidence against the attacker. Some emergency departments may refer sexual assault survivors to the local health jurisdiction for HIV testing.

Many people feel that the emergency room setting is a profoundly unpleasant time to question a sexual assault victim regarding her/his sexual risks, etc. However, testing shortly after a sexual assault will provide baseline information on her/his status for the various infections. This information can be useful for the victim and health care provider, especially for follow-up care and treatment. Additionally, baseline information can be used for legal and criminal action against the assailant.

Can a victim force an assailant to be tested for HIV antibodies?

In Washington State, only the victims of convicted sexual offenders may learn the attacker's HIV status. The victim needs to consider whether to start post-exposure prophylaxis (PEP) independently of the source's test result, because the time between the attack and the conviction will likely be longer than the 24-48 hours recommended to start PEP. More information about PEP is available on page 27.

Partner notification

Partner notification is a voluntary, confidential service provided to HIV-positive people and their sex and/or injection equipment-sharing partners.

Partner notification is provided using a variety of strategies to make sure exposed partners, including spouses, are notified of their exposure to HIV and receive appropriate counseling in a way that respects the confidentiality of the source patient.

**Partner notification
continued**

It is a federal and state law that a good faith attempt be made to notify the spouse of an HIV infected individual. "Spouse" is defined as the person(s) in a marriage relationship with the infected person up to 10 years prior to the test. Procedures and guidance for partner notification can be found in WAC 246-100-072.

Reporting requirements

HIV and AIDS are both reportable in Washington State. Please see the Legal section of this curriculum, pages 72-77, for more information on this topic.

Clinical Manifestations and Treatment

The Natural History of HIV Infection

A person with untreated HIV infection will experience several stages in infection. These include: viral transmission, primary HIV infection, seroconversion, asymptomatic HIV infection, symptomatic HIV infection, and AIDS. These stages are sometimes called the "natural history" of disease progression and are described below. The natural history of HIV infection has been altered dramatically in developed countries because of new medications. In countries where there is no access to these expensive medications, or in cases where people do not become aware of their HIV infection until very late, the disease progresses as described below.

Viral transmission

This is the initial infection with HIV. When a person is infected with HIV, they will probably have virus circulating in their bloodstream, and may become infectious to others within five days. **The person may be infectious before the onset of any symptoms.** They will remain infectious for the rest of their lives.

Primary HIV infection

During the first few weeks of HIV infection, an infected person has a very high amount of virus in their bloodstream. The high viral load means the individual may more easily pass the virus to others. Unfortunately, during primary infection, many people are unaware that they are infected.

The most common symptoms noticed by persons newly infected with HIV are fever, swollen glands in the neck, armpits and/or groin, rash, fatigue and a sore throat (also common with many other types of infections). These initial symptoms go away in a few weeks, but the individual continues to be infectious to others. This is sometimes called "seroconversion syndrome" or "seroconversion sickness." It resembles mononucleosis infection, with similar symptoms and length of illness.

It is extremely important that healthcare providers consider special testing for HIV itself (not antibodies) if an individual has behaviors which put him or her at risk for HIV and is presenting with the above symptoms. If individuals experience these symptoms after having unprotected sex or sharing needles, they should seek medical care and tell their provider why they are concerned about HIV infection.

Some healthcare providers believe that a newly HIV-infected person should begin to take drug therapies immediately.

Primary infection continued

Others believe that people should wait. However, people should also assume that they could be taking HIV-related medications the remainder of their lives.

Seroconversion

Seroconversion is the time period that it takes from infection to the production of antibodies, which would show positive on an HIV test. This may vary from person to person.

As discussed on page 40 of the Testing and Counseling section of this manual, HIV antibodies are detectable sometime within the first three to six months of infection, and in most cases will be detectable for life.

Asymptomatic HIV infection

During this time period an HIV-infected person has no noticeable signs or symptoms. The person may look and feel healthy, but can still pass the virus to others. It is not unusual for an HIV-infected person to live 10 years or longer without any outward physical signs of progression to AIDS. Meanwhile, the person's blood and other systems are affected by HIV. This would be reflected in laboratory tests. Unless a person in this stage has been tested for HIV, they will probably not be aware they are infected.

Symptomatic HIV infection

During the symptomatic stage of HIV infection, a person begins to have noticeable physical symptoms that are related to HIV infection. Although there are **no** symptoms that are specific **ONLY** to HIV infection, some common symptoms are:

- a persistent low grade fever
- pronounced weight loss that is not due to dieting
- persistent headaches
- diarrhea that lasts more than one month
- difficulty recovering from colds and the flu
- a person may become sicker than they normally would
- women may have recurrent vaginal yeast infections
- thrush (a yeast infection) coating the mouth or tongue

Anyone who has symptoms like these and has engaged in behaviors that transmit HIV should seek medical advice. The only way to know for sure if you are infected with HIV is to take an HIV antibody test.

AIDS

An AIDS diagnosis can only be made by a licensed healthcare provider. The diagnosis is based on the result of HIV-specific blood tests, and the person's physical condition.

There is a list of "AIDS-defining illnesses," white blood cell counts and other conditions that are specifically linked to making an AIDS diagnosis. Once a person is diagnosed with AIDS, even if they later feel better, they do not "go backwards" in the classification system for HIV infection. This means that they are always considered to have AIDS.

People who have an AIDS diagnosis may often appear to a casual observer to be quite healthy, but continue to be infectious and can pass the virus to others.

Over time, people with AIDS frequently have a reduced white blood cell count and develop poorer health. They may also have a significant amount of virus present in their blood, which is measured as viral load.

Cofactors

A cofactor is a separate condition that can change or "speed up" the course of disease. There are several cofactors that can increase the rate of progression to AIDS. They include a person's age, certain genetic factors and possibly drug use, smoking, nutrition and HCV.

Time from infection to death

Currently, if the infection is untreated, the average time from HIV infection to death is 10-12 years. Early detection and medical treatment may mean that the person will live longer.

The 1993 Revised AIDS Surveillance Case Definition

In 1987, the CDC defined AIDS using a positive HIV antibody test plus a list of conditions that indicated a deficient immune system. In 1993, the CDC revised the definition of AIDS to include more conditions and a variety of CD4-cell counts. The revised definition meant that more people were considered to have AIDS. That year there was a "jump" in the number of people with AIDS which reflected the change in classification system.

An AIDS diagnosis is only made by a licensed healthcare provider, based on a confirmed HIV test result, the presence of certain defining physical conditions, and the person's CD4-cell count. HIV has a wide spectrum of clinical presentations in children. The CDC developed a revised pediatric HIV classification system in 1994, to clarify HIV-infected pediatric patients into

categories based on their immune system, CD4 cells, and clinical category. Pediatric classification of AIDS is different than the classification for adults.

The 1993 AIDS Surveillance Case Definition for Adolescents and Adults, which is the most current definition, is comprised of a 3 x 3 staging system. In this definition, any person who is HIV-infected and has either an AIDS indicator condition or a CD4+ ("T-cell count") less than 200 cells/mm³, or less than 14%, is considered to have AIDS.

AIDS Indicator Conditions (Adults)

A positive HIV test plus one or more of the following:

- Candidiasis, of esophagus, trachea, bronchi or lungs
- Cervical cancer, invasive
- Coccidioidomycosis, extrapulmonary
- Cryptococcosis, extrapulmonary
- Cryptosporidiosis with diarrhea greater than one month
- Cytomegalovirus of any organ other than liver, spleen, or lymph nodes
- Herpes simplex with mucocutaneous ulcer lasting longer than one month or bronchitis, pneumonitis, esophagitis
- Histoplasmosis, extrapulmonary
- HIV-associated dementia: disabling cognitive and/or motor dysfunction interfering with activities of daily living
- HIV-associated wasting: involuntary weight loss >10% of baseline plus chronic diarrhea (2 loose stools/day for 30 days) or chronic weakness and documented enigmatic fever 30 days
- Kaposi's sarcoma
- Lymphoma of brain
- Lymphoma, non-Hodgkins of B-cell or unknown immunologic phenotype and histology showing small, noncleaved lymphoma or immunoblastic sarcoma
- *Mycobacterium avium* complex or *M. kansasii*, disseminated
- Tuberculosis
- Nocardiosis
- *Pneumocystis carinii* pneumonia
- Pneumonia, recurrent-bacterial (2 episodes in 12 months)
- Progressive multifocal leukoencephalopathy
- Salmonella septicemia (non-typhoid), recurrent
- Strongyloidiasis, extraintestinal
- Toxoplasmosis of internal organs

The difference between clinical manifestations and opportunistic infections

When a person's immune system is suppressed, they have weaker defenses against the wide variety of bacteria, viruses, fungi and other pathogens that are present almost everywhere. A "clinical manifestation" is the physical result of some type of illness or infection.

The "opportunistic" diseases and infections associated with HIV infection are any of the infections that are part of an AIDS-defining classification.

For example: the opportunistic infection cytomegalovirus often causes the clinical manifestation of blindness in people with AIDS.

HIV in the Body

The original case definition of HIV infection was based on the clinical symptoms seen in men. In 1993, the CDC revised the classification system for HIV infection and expanded the case definition for AIDS to include invasive cervical cancer, obviously a condition found only in women. Since 1993, scientists have reported further differences in the way that HIV affects men, women and children.

How HIV works in the body

Scientists are always learning new information about how HIV affects the body. HIV infection seems to affect many body systems. It is well known that HIV infection causes a gradual, pronounced decline in the immune system's functioning. People with HIV are at risk for a wide variety of illnesses "both common and exotic."

HIV affects:

- the kind and number of blood cells
- the amount of fat and muscle distribution in the body
- the structure and functioning of the brain
- the normal functioning of the immune system
- the body's basic metabolism

HIV infection can cause many painful or uncomfortable conditions, including:

- confusion or dementia
- diarrhea
- fatigue
- fever

How HIV works in the body continued

- nausea or vomiting
- painful joints, muscles, or nerve pain
- difficulty with breathing
- urinary or fecal incontinence
- vision or hearing loss
- thrush (yeast infections in the mouth)
- chronic pneumonias, sinusitis, or bronchitis
- loss of muscle tissue and body weight

HIV in children

Children show significant differences in their HIV disease progression and their virologic and immunologic responses, compared to adults. Without drug treatment, children may have developmental delay, pneumocystis carinii pneumonia, failure to thrive, recurrent bacterial infections and other conditions related to HIV.

The antiretroviral treatments that are available for HIV infection may not be available in pediatric formulations. The medications may have different side effects in children than they do in adults.

It is vital that women know their HIV status before or during pregnancy. Antiretroviral treatment significantly reduces the chance that their child will become infected with HIV. Prior to the development of antiretroviral therapies, most HIV-infected children were very sick by seven years of age. In 1994, scientists discovered that a short treatment course of the medication AZT for pregnant women dramatically reduced the number, and rate, of children who became infected perinatally. C-sections for delivery in certain cases may be warranted to reduce HIV transmission. As a result, perinatal HIV infections have substantially declined in the developed world.

Early diagnosis of HIV infection in newborns is now possible. Antiretroviral therapy for infants is now the standard of care, and should be started as soon as the child is determined by testing to be HIV-infected. Current recommendations are to treat apparently uninfected children who are born to mothers who are HIV-positive with antiretroviral medicines for six weeks, to reduce any possibility of HIV transmission.

HIV in women

Certain strains of HIV may infect women more easily. The strain of HIV present in Thailand seems to transmit more easily to women through sexual intercourse.

HIV in women continued

Scientists believe that women and receptive partners are more easily infected with HIV, compared to the insertive partner. Receptive partners are at greater risk for transmission of any sexually transmitted disease, including HIV.

Women infected with HIV are at increased risk for a number of gynecological problems, including pelvic inflammatory disease, abscesses of the fallopian tubes and ovaries, and recurrent yeast infections.

Some studies have found that HIV-infected women have a higher prevalence of infection with the human papilloma virus (HPV). Cervical dysplasia is a precancerous condition of the cervix caused by certain strains of HPV. Cervical dysplasia in HIV-infected women often becomes more aggressive as the woman's immune system declines. This may lead to invasive cervical carcinoma, which is an AIDS-indicator condition. It is important for women with HIV to have more frequent Pap tests.

Several studies have shown that women with HIV in the U.S. receive less health care services and HIV medications, compared to men. This may be because women aren't diagnosed or tested as frequently as men.

Access to good medical care is important

As the medications that are available to treat HIV infection have become more numerous and complex, HIV care has become a medical specialty. If possible, people who have HIV infection should seek out a physician who is skilled in the treatment of HIV and AIDS.

People in Washington State may begin to access an HIV specialist through the assistance of the case manager(s) in their county. Call your local health department or health district for information on case management programs.

The Impact of New Drug Therapies on HIV Clinical Progression

History of newer HIV drug therapies

Before 1996, there were three medications that were available to treat HIV. These drugs were used singly and were of limited benefit. Researchers in 1996 discovered that taking combinations of these medications with new

History of newer HIV drug therapies continued

medications called protease inhibitors dramatically reduced the amount of HIV, or "viral load," in the bloodstream of a person infected with HIV. Two or three different medications are used in combination. Each one targets a separate part of the virus and its replication.

The reduction of deaths from AIDS in the United States has been primarily attributed to this combination therapy, called "highly active antiretroviral therapy" (HAART).

The improved drug therapies for HIV are not helpful for all

Not everyone with HIV infection benefits from the new drug therapies. Many people cannot tolerate the unpleasant or serious side effects from the medications. An estimated 40-50% of people with HIV who have access to the improved medications are either unable to tolerate them or cannot adhere to the complex treatment schedule. If a person cannot keep this complicated schedule, the drugs do not work effectively and viral resistance may develop.

Cost of new drug therapies can be prohibitive

Insurance programs and government programs for individuals with low income pay for much of the cost of the HIV medicines in Washington State. These medicines may cost upwards of \$2,000 per person each month. People who live in other countries where the medication is unaffordable have almost no access to the newer therapies.

New therapies are not a "cure" for HIV infection

Although the new drug therapies work for many people to keep the amount of virus in their bodies to very low levels, they are not a "cure for HIV." Once therapy is discontinued, viral load may increase. Even during treatment, viral replication may occur and **the person remains infectious to others.**

Resistance to the HIV medications can develop

Many people find that after time, the virus becomes resistant to the medication, and they must change medications. This is especially true when the medications are not taken correctly, and it limits the number of possible drug therapies that the person might be able to use.

Side effects of HIV prescription medications

Patients often have unpleasant side effects when they use prescription medications to treat their HIV infection. The list of side effects includes:

- nausea
- diarrhea
- peripheral neuropathy (numbness in feet and hands)
- changes in body fat distribution called lipodystrophy, with large fat deposits on the back of the neck, on the stomach area and in breast size in women. This is usually accompanied by a simultaneous, pronounced thinning of the arms and legs.
- Interference with the metabolism of oral contraceptives
- osteoporosis
- diabetes or other changes in glucose metabolism
- damage to the nervous system, liver and/or other body organs

Alternative therapies for HIV infection

People have used and relied on "alternative" (sometimes called complimentary) therapies to treat HIV infection for as long as HIV has been known. Many people use these treatments along with therapies from their medical provider. Other people choose to only use alternative therapies.

These therapies include a wide range of treatments, from vitamins, massage, herbs, naturopathic remedies, and many more.

It is important for people who are taking alternative therapies to tell their medical provider. There may be drug reactions or other harmful side effects from the interactions of the "natural" medicine and antiretrovirals.

Interactions with other medications/drugs

Other drugs, including over the counter medications, prescription medications and "street drugs," may have serious interactions with antiretroviral medications. It is extremely important that people on HIV medications tell their doctor, pharmacist or social worker about all other drugs they take.

When will a vaccine be available?

Scientists have worked for years to develop a vaccine to prevent, or alleviate the severity of HIV infection. No one knows when a vaccine will be ready for distribution. Many promising developments have been made and it is possible that a vaccine will be available within this decade. Currently, prevention is still the only way to avoid HIV infection.

Finding case management

People living with HIV often seek the assistance of a case manager who can help explain the different types of services available. Washington state has several systems in place to provide prescription and medical assistance to people living with HIV and AIDS. Contact your local health department or district to find case management in your community. You can also call the Washington State Department of Health toll-free at 1-800-272-2437, and press # 2.

Children with HIV may also benefit from the "Children with Special Health Care Needs" program. Care coordinators for this program are located at every county health department/district. Local community-based organizations like the Northwest Family Center in Seattle, and specialty hospitals like Children's Medical Center in Seattle and Mary Bridge Children's Hospital in Tacoma may also provide additional support to children and families.

Tuberculosis, Other Sexually Transmitted Diseases and Hepatitis B and C

Because of the interrelationships between tuberculosis (TB) sexually transmitted diseases (STD), HBV, HCV and HIV, a brief discussion of each of these is included in this curriculum.

Tuberculosis and HIV

Definition of Tuberculosis (TB)

Mycobacterium tuberculosis (TB) is transmitted by airborne droplets from people with active pulmonary or laryngeal TB during coughing, sneezing, or talking. Although the TB bacteria can live anywhere in the body, infectious pulmonary or laryngeal TB poses the greatest threat to public health.

Cause of TB

Latent infection, which is asymptomatic and not infectious, can last for a lifetime. A presumptive diagnosis of active TB is made when there are positive test results or acid-fast bacilli (AFB) in sputum or other bodily fluids. The diagnosis is confirmed by identification of *M. tuberculosis* on culture, which should be followed by drug sensitivity testing of the bacteria.

Epidemiology of TB

Globally, there are probably 2 billion people (1/3 of the world's population) infected with TB, and 8 million active cases of TB each year. Tuberculosis is one of the leading causes of death in the world.

A total of 258 new cases of tuberculosis were diagnosed among Washington residents in 1999. Twenty-three of 39 counties had at least one new case of TB. In 1999, the five counties with the highest specific incidence rates were Mason (10.4), Chelan (8.0), Grays Harbor (7.4), King (7.0) and Cowlitz (6.4).

Transmission & progression of TB

When infectious secretions sneezed or coughed by an adult with pulmonary TB are breathed in by another person, the bacteria may come to rest in the lungs. After several weeks, the bacteria multiply and some asymptomatic, pneumonia-like symptoms may occur.

Transmission & Progression of TB continued

The TB bacteria are carried through the bloodstream and lymph system, pumped through the heart, and then disseminated through the body.

The largest amount of bacteria go to the lungs. In most cases, this process, called primary infection, resolves by itself and something called "delayed-type hypersensitivity" is established. This is measured with the tuberculin skin test. The incubation period for this primary infection is two to 10 weeks. In most cases, a latent state of TB develops. 90% of people with latent TB never experience subsequent disease. Other than a positive tuberculin skin test, people with latent TB infection have no clinical, radiographic (x-ray), or laboratory evidence of TB and cannot transmit TB to others.

Among the other 10% of infected individuals, the TB infection undergoes "reactivation" at some time and they develop active TB. About 5% of newly infected persons do so within the first two years of primary infection and another 5% will do so at some point later in life.

Symptoms of TB

The period from time of initial exposure to conversion of the tuberculin skin test is four to 12 weeks. During this period, the patient shows no symptoms. The progression to active disease and symptoms (such as cough, weight loss, and fever) usually occurs within the first two years after infection, but may occur at any time.

Prevention of TB

It is important to recognize the behavioral barriers to TB management, which include deficiencies in treatment regimens, poor client adherence to TB medications, and lack of public awareness. Primary health care providers need adequate training in screening, diagnosis, treatment, counseling, and contact tracing for TB through continuing education programs and expert consultation. Promoting patient adherence to the sometimes complicated medication schedule, also requires consideration of the patient's cultural and ethnic perceptions of his/her health condition. Providing strategies and services that address the multiple health problems associated with TB (such as alcohol and drug abuse, homelessness, and mental illness) also builds trust and promotes adherence to treatment plans.

Prevention of TB continued

Clinical trials have shown that daily preventive therapy for 12 months reduces the risk for TB disease by more than 90% in patients with latent TB infection who complete a full course of therapy. There is evidence that six months of preventive therapy with Isoniazid may also prevent disease in approximately 69% of patients who complete the regimen. Every effort should be made to ensure that patients adhere to this therapy for at least six months. Children should receive at least nine months of preventive therapy.

Treatment of TB and multidrug resistant-TB

In order to prevent drug resistance and cure TB, the CDC recommends that TB be treated with a multidrug regimen, which may last six to 12 months. Current recommendations can be found in the Washington State Department of Health's *Guidelines for the Prevention, Treatment and Control of TB*. A copy may be obtained by calling the Washington State Department of Health TB Program at (360) 236-3447.

Treatment of multidrug-resistant TB (MDR-TB) is much more difficult and must be individualized. The patient with MDR-TB requires treatment for two years or more.

TB/HIV co-infection

HIV/TB co-infected persons are at considerably greater risk of developing TB disease than those who only have TB. Studies suggest that the risk of developing TB disease is 7% to 10% each year for persons who are infected with both *M.tuberculosis* and HIV, whereas it is 10% over a lifetime for a person infected only with *M.tuberculosis*.

In an HIV-infected person, TB disease can develop in either of two ways. A person who already has latent TB infection can become infected with HIV, and then TB disease can develop as the immune system is weakened. Or, a person who has HIV infection can become infected with *M.tuberculosis*, and TB disease can then rapidly develop because their immune system is not functioning.

Pulmonary TB and extrapulmonary TB are among the conditions included in the 1993 AIDS surveillance case definition. Any HIV-infected person with a diagnosis of TB disease should be reported as having TB and AIDS.

For More Information on TB Contact:

- the communicable disease staff in each county health department/district
- the Washington State Department of Health TB program, (360) 236-3447
- the Centers for Disease Control and Prevention Division of TB Elimination Web site:
<http://www.cdc.gov/nchstp/tb>.

Other STDs and HIV

Definition of STD

The term STD (sexually transmitted disease) is not specific for any one disease, but refers to the more than 25 infectious organisms that are transmitted through sexual activity and the dozens of clinical syndromes that they cause. STDs affect both men and women and can also be transmitted from mothers to babies during pregnancy and childbirth. These may also be called sexually transmitted infections (STIs).

Bacterial, viral, and other causes of STD

Different bacteria cause STDs such as chlamydia, gonorrhea and syphilis. Herpes, genital warts, hepatitis B and HIV have different viral causes. Scabies are caused by mites, and pubic lice cause “crabs.” Trichomoniasis is caused by tiny organisms called protozoa; “yeast” infections are caused by fungi. STDs such as pelvic inflammatory disease can have more than one cause - a woman may have both gonorrhea and chlamydia causing this condition. A man may have more than one cause for epididymitis.

STD, internationally and nationally

In 1999, the World Health Organization estimated that there were 340 million new cases of the four common curable STDs (gonorrhea, chlamydia, syphilis and trichomoniasis) worldwide among people age 15-49. Since the beginning of the AIDS epidemic, researchers have noted the strong association between HIV and other STDs.

Nationally, five of the top 10 most frequently reported communicable diseases are STDs. In the US in 1999, 659,441 new cases of chlamydia were reported to the CDC. Reported cases of gonorrhea rose to 360,076 in that year.

STD nationally continued

Primary and secondary cases of syphilis declined to 6,657 cases. The Kaiser Family Foundation's website (www.kff.org) lists estimates for incidence (new cases) and prevalence (total number of cases) of both bacterial and viral STDs in the US, noting that by age 24, at least one in three sexually active people are estimated to have contracted an STD.

Primary STD infections may cause pregnancy-related complications, congenital infections, infertility, ectopic pregnancy, chronic pelvic pain and cancers. STDs can also accelerate other infections like HIV.

HIV and STDs

The presence of infection with other STDs increases the risk of HIV transmission because:

- 1) STDs like syphilis and symptomatic herpes can cause breaks in the skin, which provide direct entry for HIV
- 2) Inflammation from STDs, such as chlamydia, makes it easier for HIV to enter and infect the body
- 3) HIV is often detected in the pus or other discharge from genital ulcers from HIV-infected men and women
- 4) Sores can bleed easily and come into contact with vaginal, cervical, oral, urethral and rectal tissues during sex
- 5) Inflammation appears to increase HIV viral shedding and the viral load in genital secretions

STD transmission

STDs are transmitted in the same way that HIV is transmitted: by anal, vaginal and oral sex. In addition, skin-to-skin contact is important for the transmission of herpes, genital warts, syphilis, scabies and pubic lice.

Symptoms of STD

In the past there was a great emphasis on symptoms as indicators of STD infection. Research has changed this. We now know that 80% of those with chlamydia, 70% of those with herpes and a great percentage of those with other STDs have no symptoms, but can still spread the infections.

Symptoms of STD continued

Along with prompt testing and treatment for those who do have symptoms, the emphasis in the U.S. is screening for infection based on behavioral risk. Patients cannot assume that their health care providers do STD testing. In other words, women who are getting a pap test or yearly exam should not just assume that they are also being tested for chlamydia or any other STD.

Prevention of STD

The following steps will help prevent STD infection:

- Abstain or be in a mutually monogamous relationship with an uninfected partner
- Know that many STDs have no symptoms
- Know that birth control pills and shots do not prevent infections – you must use condoms along with other birth control methods
- Go with your sex partner(s) for tests
- Avoid douching
- Learn the right way to use condoms and then use them correctly and consistently every time you have sex
- Be sure all sex partners are examined and treated if an STD occurs
- Change the ways you have sex so that there is no risk of infection
- Learn how to talk about correct use of condoms with all sex partners
- Practice the prevention you have learned for HIV and hepatitis

STD tests

At some sites, new urine LCR (urinate in a cup) tests for some STDs are available. Western Blot (blood tests) for herpes and hybrid capture tests for genital warts may also be available. In most places, however, cultures, wet preps and blood draws for syphilis remain the standard testing method. It is vital that women get pap tests, and that both men and women disclose a history of STD during medical workups.

STD treatment

STD treatment is based on lab work and clinical diagnosis. Treatments vary with each disease or syndrome. Because of developing resistance to medications for some STDs, check the latest CDC treatment guidelines.

Hepatitis B and HIV

What is Hepatitis?

Hepatitis is the inflammation of the liver that may be caused by many things, including viruses. Current viruses include Hepatitis A (not usually sexually transmitted or transmitted by blood), B, C, D and others.

What is Hepatitis B?

Hepatitis B (HBV) is a virus that is transmitted by the blood and body fluids of an infected person.

Prevention of HBV

A vaccine to prevent HBV is available. It is taken in a series of three injections over 6 months. More than 90% of people who take the 3 injections become immune to HBV.

Why isn't everyone vaccinated for HBV?

HBV vaccine is relatively inexpensive for infants and children. The adult doses are more expensive (costing about \$150 per person.) This cost is the likely reason that most adults are not vaccinated against HBV.

HBV Epidemiology

Each year in the U.S. an estimated 200,000-300,000 people become infected with HBV. Of these, about 10% of adults will become chronically infectious carriers of the virus.

There are 1,250,000 carriers of HBV in the U.S. Each year, over 11,000 people will be hospitalized and about 4,000-5,000 people will die in the U.S. from chronic liver disease or liver cancer caused by HBV.

Transmission

HBV is transmitted the same way as HIV, through sexual intercourse and sharing needles. HBV is much more concentrated in blood, and it is more infectious than HIV.

How HBV is not transmitted

HBV is not transmitted by:

- Breastfeeding
- Sneezing
- Hugging
- Coughing
- Sharing eating utensils or drinking glasses
- Food or water
- Casual contact

Risk Factors for HBV infection

Unvaccinated people are at higher risk for getting HBV if they:

- share injection needles/syringes and equipment
- have sexual intercourse with an infected person
- work where they come in contact with blood or body fluids, such as in a health care setting, prison, or home for the developmentally disabled
- use the personal care items (razors, toothbrushes) of an infected person
- are on kidney dialysis
- were born in a part of the world with a high rate of Hepatitis B (China, Southeast Asia, Africa, the Pacific Islands, the Middle East, South America and Alaska)

Progression of HBV

The average incubation period for HBV is 120 days. People are infectious when they are "Hepatitis B surface antigen positive", (HbsAg) either because they are newly infected, or because they are chronic carriers.

HBV causes damage to the liver and other body systems, which can range in severity from mild, to severe, to fatal.

Most people recover from their HBV infection and do not become carriers. Carriers (about 10% of adults who become infected) have the virus in their body for months, years, or for life. They can infect others with HBV through their blood or other body fluid contact.

Symptoms of HBV

People with HBV may feel fine and look healthy. Some people who are infected with HBV display only mild symptoms, which could include:

- loss of appetite
- extreme fatigue
- abdominal pain

Symptoms of HBV continued

- jaundice (yellowing of the eyes and skin)
- joint pain
- malaise
- dark urine
- nausea or vomiting
- skin rashes

Others who are infected with HBV experience more severe symptoms, and may be incapacitated for weeks or months.

Long-term complications may also occur, and include:

- chronic hepatitis
- recurring liver disease
- liver failure
- cirrhosis (chronic liver damage)

Prevention of HBV

A vaccine for HBV has been available since prior to 1990. This vaccine is suitable for people of all ages, even infants. People who may be at risk for infection should get vaccinated.

To further reduce the risk of or prevent HBV infection, a person can:

- abstain from sexual intercourse and/or injecting drug use
- maintain a monogamous relationship with a partner who is uninfected or vaccinated against HBV
- use safer sex practices (as defined in the Transmission section starting on page 6)
- never share needles/syringes or other injection equipment
- never share toothbrushes, razors, nose clippers or other personal care items that may come in contact with blood
- use Universal or Standard Precautions with all blood and body fluids

Infants born to mothers who are HBV carriers have a greater than 90% reduction in their chance of becoming infected with HBV, if they receive a shot of hepatitis B immune globulin and hepatitis B vaccine shortly after birth plus two additional vaccine doses by age six months.

Prevention of HBV continued

It is vital that the women and their medical providers are aware that the woman is a HBV carrier.

People with HBV should not donate blood, semen or body organs.

Treatment of HBV

There is no cure for HBV. There are two approved drug treatments for HBV, but these treatments do not cure, the virus. The vaccine is not used to treat HBV infection once a person is infected.

Hepatitis C and HIV

What is Hepatitis C?

Hepatitis C is a liver disease caused by the hepatitis C virus (HCV), which is found in the blood of persons who have this disease.

Hepatitis C is the leading cause of chronic liver disease in the United States. Hepatitis C was discovered in the late 1980s, although it was likely spread for at least 40-50 years prior to that.

HCV epidemiology

Globally, 200 million people are infected with HCV. As of 1999, almost 4 million Americans, or 1.8% of the U.S. population, have antibodies to HCV. This means that they have a current or previous infection with the virus. About 3 million are chronically infected, and the majority of them have some liver damage.

The CDC estimates that as many as 1 million Americans were infected with HCV from blood transfusions, and that 3.75 million Americans do not know they are HCV-positive. Of these, 2.75 million people are chronically infected, and are infectious for HCV. In the U.S., 8,000-10,000 deaths per year are attributed to HCV-associated liver disease. The number of deaths from HCV are expected to triple in the next 10-20 years.

There may be 50,000 - 100,000 people in Washington State who are infected with HCV.

Transmission of HCV

HCV is transmitted primarily by blood and blood products. Blood transfusions and the use of shared or unsterilized needles and syringes have been the main causes of the spread of HCV in the U.S. The primary way that HCV is transmitted now is through injection drug use. (Since 1992, all blood for donation in the U.S. is tested for HCV.)

Sexual transmission of HCV accounts for 10 - 20% of new infections, but is unusual. If a pregnant woman is infected with HCV, she may pass the virus to her baby. However, this occurs in only about 5% of those pregnancies.

Household transmission is possible if people share personal care items such as razors, nail clippers, toothbrushes, etc.

How HCV is not transmitted

HCV is not transmitted by:

- Breastfeeding
- Sneezing
- Hugging
- Coughing
- Sharing eating utensils or drinking glasses
- Food or water
- Casual contact

Progression of HCV

The severity of HCV differs from HIV. The CDC states that, for every 100 people who are infected with HCV:

- about 15% will fully recover and have no liver damage
- 85% may develop long-term infection, and be infectious for HCV
- 70% may develop chronic liver disease
- 20% may develop cirrhosis over a period of 20-30 years
- 25% may die from the consequences of long term infection (liver cancer or cirrhosis)

Symptoms of HCV

Persons with HCV may have few or no symptoms for decades. When present, the symptoms of HCV are:

- nausea and vomiting
- weakness

Symptoms of HCV continued

- fever
- muscle and joint pain
- jaundice (yellowing of the eyes and skin)
- dark-colored urine
- tenderness in the upper abdomen

Prevention of HCV

There is no vaccine to prevent HCV infection. The following steps can protect against HCV infection:

- Follow Universal and Standard Precautions to avoid contact with blood or accidental needlesticks.
- Refrain from acquiring tattoos or skin piercings outside of a legitimate business that practices Universal Precautions.
- Refrain from any type of injection drug use or drug equipment-sharing.
- Never share toothbrushes, razors, nail clippers or other personal care items.
- Cover cuts or sores on the skin.
- Persons who are HCV-infected may use latex condoms and practice safer sex to lower the small risk of passing HCV to their sex partner.
- Women who are HCV-infected and wish to have children should discuss their choices beforehand with a medical specialist.

People with HCV should not donate blood, semen or body organs.

Treatment of HCV

Currently there are two approved antiretroviral treatments for HCV. The cost of the treatments can be high, and the side effects can be significant (fatigue, flu-like symptoms, nausea, depression and anemia). People infected with HCV should abstain from alcohol use, as this can further damage the liver.

Testing for HCV

Many people who are infected with HCV are unaware of their status. People who should consider testing are:

- Current or former injection drug users
- Persons who received blood transfusions or an organ transplant prior to May 1992
- Hemophiliacs who received clotting factor concentrates produced before 1987

Testing for HCV continued

- Persons who have received chronic hemodialysis
- Infants born to infected mothers
- Healthcare workers who have been occupationally exposed to blood or who have had accidental needlesticks
- Persons who are sex partners of people with HCV

Testing for HCV is available through physicians and some health departments.

In 1999, the Food & Drug Administration approved the first home test for HCV. The test kit, called "Hepatitis C Check" is available from the Home Access Health Company. The test is accurate if it has been at least six months since the possible exposure to HCV.

HIV/HCV coinfection

Many people who become infected with HIV from injection drug use are already infected with HCV. Some estimate that 40% of HIV-infected people in the U.S. are also infected with HCV. People who are co-infected with both viruses and have immune system impairment, may progress faster to serious, chronic or fatal liver damage.

Most new HCV infections in the U.S. are among injecting drug users. The majority of hemophiliacs who received blood products contaminated with HIV also are infected with HCV. Treating HIV in someone with HCV may be complicated, because many of the medicines that are used to treat HIV may damage the liver.

A Comparison Chart of HIV, HBV, and HCV:

	HIV	HBV	HCV
Transmission by: Blood	Yes	Yes	Yes
Semen	Yes	Yes	Rarely (more likely if blood present)
Vaginal fluid	Yes	Yes	Rarely (more likely if blood present)
Breast milk	Yes	No (but may be transmitted if blood is present)	No (but may be transmitted if blood is present)
Saliva	No	Maybe	No
Target in the body	Immune System	Liver	Liver
Risk of infection after needlestick exposure to infected blood	0.5%	5-30%	2-3%
Vaccine available?	No	Yes	No

For more information on Hepatitis B or C:

Go to the CDC hepatitis website, at <http://www.cdc.gov/hepatitis/>
 Or call the Hepatitis Hotline, at 1-888-4HEPCDC (1-888-443-7232).
 The American Liver Foundation's website is: <http://www.liverfoundation.org/>
 Immunization Action Coalition: <http://www.immunize.org>

Legal and Ethical Issues

AIDS and HIV are reportable conditions in Washington State, by statutes RCW 70.24 and WAC 246-101-010.

HIV and AIDS are reportable

AIDS (medically diagnosed) and symptomatic HIV infection have been reportable conditions in Washington since 1984 and 1993 respectively. In 1999, asymptomatic HIV infection also became reportable.

Reporting of HIV and AIDS cases assists local and state officials in tracking the epidemic. It also allows for effective planning and intervention to be provided in the effort to reduce the transmission of HIV to other people.

What does ‘reportable’ mean?

In the case of AIDS or symptomatic HIV infection, providers who diagnose a person with AIDS must submit a confidential case report to the local health jurisdiction within 3 days.

In the case of HIV, providers receiving a confirmed HIV positive diagnosis must report the positive test to the local health jurisdiction, by name, within 3 days. In some local health jurisdictions the state Department of Health fills this function for local authorities. The local health jurisdiction then has 90 days after the case report is completed to assign a computer-generated code (a combination of letters and numbers) and remove any reference to the individual’s name. Partner notification, case management and other services will be offered to the individual. The case report, using the coded identifier, is then forwarded to the Washington State Department of Health.

Are HIV positive results from an *anonymous* test reportable?

Positive HIV results obtained through anonymous testing are not reportable. However, once a patient with positive results seeks medical care for conditions related to HIV or AIDS, the provider is required to report the case to the local health departments.

Spousal notification

Federal Public Law 104-146 (1996) requires that states take action to require that a "good faith effort" be made to notify

Spousal notification continued

all spouses of HIV-infected persons. A "spouse" is defined as anyone who is or has been the marriage partner of an HIV-infected individual within 10 years prior to the HIV diagnosis.

"Notification" means that spousal information will be discussed with individuals prior to their HIV test. If the test result is positive, the individual will be given the choice to notify his/her spouse(s), to allow the health care provider to notify the spouse(s) or refer to the local health jurisdiction for assistance in notifying the spouse(s).

More information on spousal notification can be found in the Testing and Counseling Section on page 46.

Confidentiality

All medical records are confidential and must be maintained in a manner that protects that confidentiality. There are special requirements around HIV and AIDS, found in WAC 246-101 and RCW 70.24.105.

What does ‘confidential’ mean?

Confidentiality of medical information means that information that can be related to the specific patient may not be disclosed to ANYONE except under specific circumstances. Usually, this means that the individual signs a release of information form, but there are exceptions. The most common circumstances are:

- If there is a separate, signed release of information form
- To another health care provider for related on-going medical care
- In a life or death emergency
- To a third party payor (insurance provider)
- In the case of reporting notifiable conditions to the local health jurisdiction or the DOH

Violation of the above-mentioned laws is a misdemeanor and may result in civil liability actions for reckless or intentional disclosure up to \$10,000 or actual damages, whichever is greater.

It is the responsibility of the county's health officer to investigate potential breaches of confidentiality of HIV identifying information and report those to the DOH.

Why are there additional confidentiality protections for HIV, mental health, substance abuse and other selected records?

Some areas of the medical record have additional confidentiality requirements because disclosure of the information to the wrong person or agency could mean additional harm to the patient. It has been determined that there exists a level of prejudice, fear and discrimination directed at people with these medical conditions. Therefore, there is a balance between civil protection and information access.

Disability and Discrimination

People with AIDS and HIV are also protected by federal law under the Americans with Disability Act (1990) and Section 504 of the Federal Rehabilitation Act of 1973, as amended. Washington law RCW 49.60 regulates "disabled" status.

Discrimination

Persons with HIV infection and/or AIDS who feel discriminated against on the basis of their disease may file a complaint with the Office for Civil Rights (OCR) of the U.S. Department of Health and Human Services, or the Washington State Human Rights Commission. OCR will investigate anonymous reports.

Disability

HIV infection and AIDS are medical conditions that are considered disabilities under the Washington State Law Against Discrimination (RCW 49.60) and the federal Americans with Disability Act (ADA).

What does the law protect the individual with HIV infection or AIDS from?

The law means that it is illegal to discriminate against someone who has AIDS or is HIV infected. It is also illegal to discriminate against someone who is 'believed' to have AIDS or HIV infection, even though that person is not, in fact, infected. The areas covered in the law are:

- Employment
- Rental, purchase or sale of apartment, house or real estate
- Places of public accommodation (restaurants, theaters, etc.)
- Health care, legal services, home repairs, and other personal services available to the general public
- Applying for a loan or credit card, or other credit transaction
- Certain insurance transactions

The laws also protect HIV infected and AIDS-diagnosed people from employment discrimination

Employers may not discriminate against persons with HIV infections or AIDS in:

- Employment
- Recruitment
- Hiring
- Transfers
- Layoffs
- Terminations
- Rate of pay
- Job assignments
- Leaves of absence, sick leave, any other leave or fringe benefits available by virtue of employment

Employers must provide a discrimination-free environment

Employers are required to provide and maintain a working environment free of discrimination. They must assure that no harassment, intimidation or personnel distinction is made in terms and conditions of employment.

If a worksite situation develops that poses the threat of discrimination, employees must be given education and supervision to end harassment, the use of slurs and/or intimidation.

Reasonable accommodation

Employers are responsible for providing reasonable worksite accommodations which will enable a qualified, disabled employee or job applicant to perform the essential tasks of a particular job.

Reasonable accommodation means relatively inexpensive and minimal modifications, such as:

- Providing special equipment
- Altering the work environment
- Allowing flex-time
- Providing frequent rest breaks
- Allowing the person to work at home (telecommute)
- Restructuring the job

Potentially prejudicial information

When a person goes for a job interview or is hired, the employer:

- Cannot ask questions directed at the perception or presence of HIV infection or AIDS, unless based on a “bona fide” occupational qualification, which at this time, according to CDC and WAC 246-100-206(11), does not exist.

Prejudicial information continued

- Cannot require a blood test to determine HIV infection, unless HIV status limits the ability to perform the work, i.e. overseas assignment in country that requires HIV certification.
- Cannot require a physical exam directed to identify HIV infection, except for exams necessary to evaluate the need for, or nature of, reasonable accommodation or specific job-related conditions.
- Cannot ask questions about lifestyle, living arrangements, or sexual orientation.

Exceptions to this are applicants for the U.S. Military, the Peace Corps, the Job Corps, and persons applying for U.S. citizenship.

Behaviors Endangering the Public Health

Washington State law (RCW 70.24) and rules (WAC 246-100 and 246-101) gives state and local health officers the authority and responsibility to carry out certain measures to protect the public health from the spread of sexually transmitted disease (STD), including HIV.

Authorities and responsibilities of the Health Officer

The local health officer is the physician hired to direct the operations of the local county's health department or health district.

Included in the broad responsibilities of the health officer is the authority to:

- interview persons infected with an STD
- notify sexual or needle-sharing partners of exposure to disease
- order persons suspected of being infected to receive examination, testing, counseling or treatment
- issue orders to cease and desist from specific conduct that endangers the public health of others

Court enforcement of these orders can be sought. State law delineates the standards that must be met before action by the health officer may be taken.

For HIV, Washington State law permits an additional step - the detention of an HIV-infected person who continues to endanger the health of others. After all less restrictive

**Health officer duties
continued**

measures have been exhausted, a person may be detained for periods up to 90 days after appropriate hearings and rulings by a court.

**Reporting
non-compliance**

By state law and rule, health care providers are required to provide instruction on infection control measures to the patient who is diagnosed with a communicable disease. They are also required to report certain information to the local health officer where there are either impediments to or refusal to comply with prescribed infection control measures.

For example, health care providers who have knowledge that a specific patient is failing to comply with infection control measures (e.g., acquisition of a new STD, sex without disclosure of HIV status prior to sexual partners, failure to disclose HIV status to needle-sharing partners, or donating or selling HIV-infected blood, etc.) should contact the local public health officer to discuss the circumstances of the case and to determine if the name of the person should be reported for investigation and follow-up.

Case investigation

The health officer or other authorized representative will investigate the case if credible evidence exists that an HIV-infected person is engaging in conduct endangering the public health.

There are also other laws and regulations concerning behaviors endangering and occupational exposures. These may be specific to professions and to the jurisdictions of public health officers. For more specific information, talk with public health officials in your area, call the Washington State Hotline at 1-800-272-2437, or ask a knowledgeable person to provide the information to your group.

Psychosocial Issues

Washington State has a system to link people with HIV infection and AIDS to care services. Case managers in the HIV/AIDS Programs, which can usually be found by contacting the local health department or health district, are the primary contact people for services. HIV infected, or affected persons can be linked with medical care, insurance programs, volunteer groups, hospice, and other types of care that may be needed during the course of a person, or family's, time of living with HIV. To find a case manager, contact the HIV/AIDS Program in your county's health department or district, or call the Washington State DOH at 1-800-272-2437, option 2.

Difficult realities

Persons with HIV and their families and friends face a multitude of difficult realities.

- Even with the advent of antiretroviral drugs, persons with AIDS still die prematurely.
- Persons who are HIV-infected can live 10-12 years or more without developing symptoms.
- Men who have sex with men, and injection drug users, who may already be stigmatized and subjected to social and job-related discrimination, may encounter even more societal pressure and stress with a diagnosis of AIDS.
- 90% of all adults with AIDS are in the prime of life and may not be prepared to deal with death and dying.
- The infections and malignancies that accompany AIDS along with some of the medications, can diminish and disfigure the body.
- People who are living with HIV face the need to practice "safer sex" and take medications for the remainder of their lives.

One thing that characterizes the grief around AIDS is the repetition of deaths that one person may experience. Many people working with or living with AIDS for years have gone to countless funerals and have seen a succession of their friends pass away. This is sometimes termed "chronic grief."

Chronic grief intensifies when one realizes that, before the grieving process for one death is complete, many more people may have died.

Losses

HIV often produces many losses:

- Loss of physical strength and abilities
- Loss of mental abilities/confusion
- Loss of income and savings
- Loss of health insurance
- Loss of job/work
- Loss of housing, personal possessions, including pets
- Loss of emotional support from family, friends, co-workers, religious and social institutions
- Loss of self-sufficiency and privacy
- Loss of social contacts/roles
- Loss of self esteem

People who are experiencing multiple losses may not have enough time to work through the grief process for each person. People experiencing multiple losses may feel:

- Guilt
- Grief
- Helplessness
- Rage
- "Numb"

The physical weakness and pain can diminish the person's ability to cope with psychological and social stresses.

Psychological suffering

Infection with HIV can cause distress for those who have HIV, for those who are their caregivers, family, lovers and friends. Grief can manifest itself in physical symptoms, including clinical depression, hypochondria, anxiety, insomnia, and the inability to get pleasure from normal daily activities. Dealing with these issues may lead to self-destructive behaviors, such as alcohol or drug abuse.

The idea of "cumulative" multiple loss or grief saturation is not new. The emotions felt by long-term survivors of HIV and the HIV-negative friends and families are similar to the emotions of the survivors of the Holocaust, survivors of natural disasters (earthquakes, tornadoes, etc.), and to battle fatigue described by soldiers.

Disbelief, numbness, and inability to face facts occur for some. The "fear of the unknown," the onset of infections, swollen lymph nodes, or loss of weight (or unusual weight gain) can be accompanied by fear of developing AIDS, or of getting sicker.

Psychological suffering continued

Rejection by family, friends, and co-workers is often experienced. In some cases, guilt develops about the disease, about past behaviors, or about the possibility of having unwittingly infected someone else.

People living with HIV may feel as though their "normal" lives have completely ended, as they must plan detailed medication schedules and medical appointments. The cost of the medications for HIV may result in financial hardship, even if the person has medical coverage.

Sadness, hopelessness, helplessness, withdrawal, and isolation are often present. Anger is common: at the virus, at the effects of the medications, or the failure of some of the medications, at the prospect of illness or death, and at the discrimination that can often be encountered.

Some people with HIV consider suicide, some attempt suicide, and some may kill themselves.

Caregivers

Often feelings experienced by the caregiver will mirror those of the patient, such as a sense of vulnerability and helplessness. Caregivers may experience the same isolation as the person with HIV infection. Finding a support system, including a qualified counselor, can be just as important for the caregiver as for the person who has HIV disease. Support from co-workers can be especially important.

Stages of Grief

Grief has been described in a variety of forms. It may be best understood as a process that doesn't involve a straight line. People do not move predictably step-by-step through the various stages of their grieving, but progress at their own speed. There seem to be discreet phases of grief, including:

- shock and numbing
- yearning and searching
- disorganization and despair
- some degree of reorganization

The length of time it takes to move between these stages is determined by the individual, his or her values and cultural norms. In "uncomplicated grief," an individual is able to move through these stages and come out of the grieving process.

Stages of Grief continued

"Complicated grief" is described as an exaggeration or distortion of the normal process of grieving. People experiencing multiple losses are more at risk for complications. If an individual has been impacted by multiple deaths, it may be difficult for them to reorganize or "move on" with the process.

Caregiver Issues

Caregivers may find it necessary to acknowledge their own experiences and feelings when dealing with all aspects of this disease. Good self-care for the caregiver is important.

DO

DO meet with a support person, group, or counselor on a regular basis to discuss your experiences and feelings.

DO set limits in care-giving time and responsibility, and stick to those limits.

DO allow yourself to have questions. Let "not knowing" be okay.

DO get the information and support you deserve and need.

DO discuss with your employer strategies of performing your job in ways that reduce stress and burnout.

DO remember that UNIVERSAL and STANDARD PRECAUTIONS are for the patient's health and welfare, as well as your own.

DON'T

DON'T isolate yourself.

DON'T try to be all things to all people.

DON'T expect to have all the answers.

DON'T deny your own fears about AIDS or dying.

DON'T continue to work in an area where you "can't cope."

DON'T dismiss UNIVERSAL AND STANDARD PRECAUTIONS because you "know" the patient.

There are other issues for people who share a home with, or provide home care for persons with HIV or AIDS. Please refer back to the section on Transmission and Infection Control, pages 6-36, for guidelines around safe home care.

Special populations

Although HIV infection affects people from all ethnic groups, genders, ages, and income levels, some groups have been significantly affected by the AIDS epidemic. These groups have included men who have sex with men, injecting drug users, people with hemophilia, women and people of Color. The difference with the grief process associated with HIV and AIDS can be the social and emotional issues associated with contracting the disease. The following information details how these different populations may be uniquely affected by the AIDS epidemic.

Men who have sex with men

American society has issues with homosexuality. Grief may not be validated when relationships are considered "unacceptable." An example of this may be the reaction of churches to those who are living with, or have families living with AIDS. Many congregants report that they do not get the support they need from their church families because of the stigma attached to HIV, AIDS and homosexuality.

Self-esteem issues and psychological issues (including depression, anxiety, diagnosed mental illness and risk-taking behaviors) may also complicate the lives of these men.

Additionally, there are the issues with HIV-negative men who have sex with men. Most of the attention, resources and services are focused on HIV-positive gay men. As with any behavior change people can become "tired" with safer sex messages, and may make choices that place them at risk. Some may feel that HIV infection is inevitable (although it is not) and purposely engage in unprotected sex.

Men who have sex with both men and women (who do not exclusively self-identify as "gay") face additional challenges. Most of the HIV-prevention activities are more successful at reaching those who identify themselves as "gay." Bisexual men face many of the same challenges as "gay" men but may not have the social and community resources they need.

Injecting drug users

American society also has issues with illegal drug use and the way we view "marginalized" individuals such as those in

Injecting drug users continued

poverty and the homeless. People who continue to use injecting drugs, despite warnings and information about risks, may be viewed by some as "deserving" their infection. Harm reduction measures like syringe exchange programs, have been proven to reduce the transmission of blood-borne pathogens like HIV, HBV, and HCV. These programs are controversial because some people believe that providing clean needles and a place to exchange used needles constitutes "approval" of injection drug use.

In addition to poverty, self-esteem issues and psychological issues, including depression, anxiety, diagnosed mental illness and risk-taking behaviors, may also complicate the lives of injection drug users. The desire to stop using illegal drugs and the ability to do so may be very far apart. The reality about inpatient treatment facilities is there are very few spaces available for the demand. Many substance abusers are placed on "waiting lists" when they want treatment, and by the time there is a place for them, the individual may be lost to follow-up.

People with Hemophilia

Hemophiliacs lack the ability to produce certain blood clotting factors. Before the advent of antihemophilic factor concentrates (products like "factor VIII" and "factor IX," which are clotting material pooled out of donated blood plasma), hemophiliacs could bleed to death. These concentrates allowed hemophiliacs to receive injections of the clotting factors that they lacked, which in turn allowed them to lead relatively normal lives. Unfortunately, because the raw materials for these concentrates came from donated blood, many hemophiliacs were infected with HIV prior to the advent of blood testing.

During the 1980's, 90% of severe hemophiliacs contracted HIV and/or HCV through use of these products. There is anger within this community because there is evidence to show that the companies manufacturing the concentrates knew their products might be contaminated, but continued to distribute them anyway.

Some people considered hemophiliacs to be "innocent victims" of HIV, but there has been significant discrimination against them. The Ryan White Care Act, funding HIV services, and the Ricky Ray Act, which

People with hemophilia continued

provides compensation to hemophiliacs infected with HIV, were both named after HIV-positive hemophiliacs who suffered significant discrimination (arson, refusal of admittance to grade school) in their hometowns.

Women with HIV

Women in the U.S. and worldwide are becoming infected with HIV at higher rates than any other group of people. Women who are infected with HIV, or who have family members who have HIV, face some unique challenges.

Women may become infected with HIV from a partner who either used injecting drugs, or who had other sexual partners. Many of these women assumed that the relationship was monogamous, or that they "knew" their partner's history.

Women may postpone taking medication, or going to medical appointments, in order to care for their children or other family members.

Women (and also men) may fear disclosing their HIV status to others, out of fear of losing their jobs, housing, or other forms of discrimination. Single parents with HIV may feel particularly fearful because of their lack of support.

Many women have problems with lack of transportation, lack of health insurance, limited education and low income. They may have child-care problems that prevent them from going to medical appointments.

Many women who have HIV infection do not consider this to be their "worst problem". Their symptoms may be mild and manageable for many years. Meanwhile, they may have more pressing concerns, such as their income, housing, access to medical care, possible abusive relationships, and concerns about their children.

People of Color

African Americans and Hispanics specifically have disproportionately higher rates of AIDS cases in the U.S., despite the fact that there are no biological reasons for the disparities. African American and Hispanic women make up less than 25% of the total U.S. population, but account for 77% of all reported AIDS cases in women. African Americans make up about 12% of the population, but account for 37% of all AIDS cases in the U.S.

People of Color continued

Hispanics make up about 13% of the population, but account for 20% of the AIDS cases in the U.S. In some areas, disparities also exist in the number of AIDS cases in American Indians.

There is not one single reason that stands out as to why the disparities exist. One factor is health disparities, which are linked to socioeconomic conditions. Another factor is distrust of the healthcare system. Both legacies of the past and current issues of race mean that many people of Color do not trust "the system" for a variety of reasons. Thus, even when income is not a barrier, access to early intervention and treatment may be limited. And HIV may be only one of a list of problems, which also include adequate housing, food, employment, etc.

Another factor may be the diversities within these populations. Diversity is evident in immigrant status, religion, languages, geographic locations and, again, socioeconomic conditions. Getting information out in appropriate ways to these diverse populations has been difficult.

There is a significant amount of denial about HIV risk, which continues to exist in these communities. As with other groups, there may also be fear and stigmatization of those who have HIV. Prevention messages need to be tailored in ways that are culturally appropriate and relevant. The messages must be carried through channels that are appropriate for the individual community. These channels may include religious institutions or through respected "elders" in the community. Ironically, it may be these institutions or elders who, in the past, have contributed to the misinformation and stigma associated with HIV. Many HIV prevention programs are recognizing the need to work within these diverse communities to let the communities lead the way in prevention the transmission of HIV.

GLOSSARY

<i>Acute (disease)</i>	Of short duration, usually with an abrupt onset, and sometimes severe, as opposed to long-term (chronic) disease.
<i>AIDS (Acquired Immunodeficiency Syndrome)</i>	The most severe manifestation of infection with the human immunodeficiency virus (HIV). AIDS is a medical diagnosis referring to infection with HIV <u>plus</u> one or more defining illnesses or conditions and/or laboratory abnormalities.
<i>AIDS Indicator Conditions</i>	One or more of a list of illnesses which, in combination with a positive HIV test, indicates progression to AIDS.
<i>Amniotic Fluid</i>	The watery fluid that surrounds the unborn child in the uterus.
<i>Anonymous Testing</i>	The person who performs the HIV antibody test does not maintain a record of the name of the person they are testing. Positive results of anonymous tests are not reportable to local public health officials.
<i>Antibody</i>	Substances that a person's immune system develops to help fight infection, or indicate that the body has been exposed to an antigen.
<i>Antibody Positive</i>	The result of a test or series of tests to detect antibodies in blood. An antigen causes the immune system to form antibodies to fight the antigen.
<i>Antigen</i>	Substance such as HIV that is foreign to a person's body. An antigen causes the immune system to form antibodies to fight an antigen like HIV.
<i>Antiviral Drug</i>	A drug that can interfere with the life cycle of a virus. Also called antiretroviral drugs.
<i>Asymptomatic</i>	Having a disease but showing no outward sign of disease.
<i>Asymptomatic HIV Seropositive</i>	The condition of testing positive for HIV antibodies without showing any symptoms of disease. Many people with HIV do not look or feel "sick." A person who is HIV positive, even without symptoms, is capable of transmitting the virus to others.
<i>AZT (Zidovudine)</i>	The first FDA-approved drug used to treat AIDS and HIV infection. Also called ZDV.
<i>Bloodborne Pathogens</i>	Any pathogen (like a virus or bacteria) present in blood or other potentially infectious material. Bloodborne pathogen (BBP) standards are enforced by the Department of Labor and Industries. BBP training may be an annual requirement of certain jobs.
<i>Bodily Fluids</i>	Fluids produced by the body. In the context of HIV prevention, blood, semen, vaginal secretions and breast milk are considered infectious

	bodily fluids.
<i>Carrier</i>	A person who is apparently healthy, but who is infected with some disease-causing organism (such as HIV or HBV) that can be transmitted to another person.
<i>Centers for Disease Control & Prevention (CDC)</i>	Federal health agency which is a branch of the U.S. Department of Health and Human Services. The CDC provides national health and safety guidelines and statistical data on AIDS, STDs, hepatitis and other diseases.
<i>Chronic (disease)</i>	Lasting a long time, or recurring often.
<i>Confidential Testing</i>	The patient gives their real name and the results of the HIV antibody test are known only to that individual and the health care provider performing the test. Positive results from confidential tests are now reportable to local public health officials.
<i>Diagnosis</i>	Identifying a disease by its signs, symptoms, course, and laboratory findings.
<i>ELISA/EIA Test</i>	A screening blood test for the presence of antibodies to HIV. A positive result from an ELISA/EIA test always needs to be confirmed by a second ELISA/EIA test and an FDA-approved confirmatory test, such as the Western Blot.
<i>Epidemiology</i>	The study of the incidence, distribution and control of a disease in a population.
<i>Etiology</i>	The causes or origins of disease.
<i>Exposure</i>	The act or condition of coming in contact with, but not necessarily being infected by, a disease-causing agent.
<i>False Negative</i>	A negative antibody test result in a person who is, in fact, infected with HIV. Generally this occurs when the infected individual has not yet produced enough antibodies to be detected by the test. See "window period."
<i>"HAART"</i>	<u>H</u> ighly <u>a</u> ctive <u>a</u> ntiretroviral <u>t</u> herapy. The use of combinations of medicines to prevent the development of or treat AIDS in someone who is HIV-positive.
<i>Helper/Suppressor T-Cells</i>	White blood cells (lymphocytes) that are part of the immune system.
<i>Hepatitis B (HBV)</i>	One of several different viral infections affecting the liver. The effects of the disease on the liver can range from mild and even inapparent to severe or fatal. HBV is transmitted in the same way that HIV is transmitted. HBV is vaccine-preventable.

<i>Hepatitis C (HCV)</i>	Another of the hepatitis viruses that affect the liver. As with HBV, the effects of the disease vary by person. HCV is usually transmitted through infected blood. At this time, there is no vaccine for HCV.
<i>"High-Risk" Behavior</i>	A term that describes certain activities which increase the risk of transmitting HIV or HBV. These include anal, vaginal or oral intercourse without a condom and sharing injection equipment.
<i>HIV Antibody Screening Test</i>	A blood test that reveals the presence of antibodies to HIV.
<i>HIV</i>	Human Immunodeficiency Virus, the cause of AIDS.
<i>HIV Antibody Negative</i>	A test result indicating that antibodies to HIV have not been found. The test may be a "false negative" if the individual has been recently infected. Also referred to as "HIV-negative."
<i>HIV Antibody Positive</i>	A test result indicating that antibodies to HIV are found. The person is infected with HIV and infectious to others for life. Also referred to as "HIV-positive."
<i>HIV Disease</i>	The term which describes the spectrum of HIV infection. Time-wise, it is described as a progression from asymptomatic seropositive to AIDS.
<i>HIV RNA/DNA Tests</i>	Blood tests which may be done for people with documented exposure to HIV through unprotected sexual intercourse or needle sharing. The tests can be run during primary infection. These tests are expensive, not meant for general screening, and not used for the general public at this time.
<i>Immune Status</i>	The state of the body's immune system. Factors affecting immune status include heredity, age, diet, and physical and mental health.
<i>Immune System</i>	A body system that helps resist disease-causing germs, viruses or other infections.
<i>Immunosuppressed</i>	A condition or state of the body in which the immune system does not work normally.
<i>Infection</i>	A condition or state of the body in which a disease-causing agent has entered it.
<i>Injection Drugs</i>	Drugs injected by needle directly into a vein, skin or muscle.
<i>Non-intact Skin</i>	Skin that is chapped, abraded, weeping, has rashes or eruptions.
<i>"OPIM"</i>	<u>O</u> ther <u>p</u> otentially <u>i</u> nfectious <u>m</u> aterial. As defined in the Bloodborne Pathogens standard, fluids other than blood that may transmit disease, including HIV.

<i>Opportunistic Infections</i>	Infections that are usually warded off by a healthy immune system. If the immune system is not strong and effective, these infections "take the opportunity" to harm the body.
<i>OSHA</i>	Occupational Safety and Health Administration.
<i>p24 Antigen Test</i>	Blood test measuring a core protein of HIV which presents during the first few weeks of infection, but may disappear as soon as antibodies to the virus are produced.
<i>Pathogen</i>	A disease-causing substance or organism.
<i>Percutaneously</i>	Entering the body through the skin; for example, by needlestick or on broken skin.
<i>Pericardial Fluid</i>	A clear fluid contained in the thin, membranous sac that surrounds the heart.
<i>Perinatal</i>	Happening just before, during or immediately after birth.
<i>Peritoneal Fluid</i>	Fluid contained in the membrane lining of the abdominal cavity.
<i>Personal Hygiene Items</i>	Any personal item, including but not limited to razors, toothbrushes, towels or other personal care items, that may be contaminated with blood or other bodily fluids capable of transmitting HIV. Personal hygiene items should not be shared.
<i>Personal Protective Equipment</i>	Equipment including, but not limited to, gloves, masks, eyewear and face shields, which will be provided by an employer and worn by employees as appropriate when the employee will or may come into contact with bloodborne pathogens.
<i>Pleural Fluid</i>	Fluid contained in the membrane that covers the lung and lines the chest cavity.
<i>Post-Exposure Prophylaxis (PEP)</i>	The provision of anti-HIV medications (antiviral medications) to someone who has had a substantial exposure, usually to the blood of another person. PEP should be started optimally within 2 hours of the exposure, preferably within 24 hours of exposure. PEP can only be provided by a medical practitioner and after evaluation of the possible exposure.
<i>Primary HIV Infection</i>	The first 4-6 weeks of HIV infection, when an individual may show some transient symptoms, including swollen lymph nodes, fever, and sore throat. These symptoms may be mistaken for other illnesses and usually pass quickly. It is usually possible to detect HIV at this stage, however, many people who are newly infected do not get tested and are unaware of their infection.
<i>Prophylaxis</i>	Any substance or steps taken to prevent something from happening (for

	example, condoms, vaccines and possibly antiretroviral therapy).
<i>Protease Inhibitors</i>	A group of medications used to treat HIV infection and AIDS. These medications target HIV at various points in its life cycle.
<i>Reportable Diseases</i>	Under State Board of Health rules, health care providers are required to confidentially notify public health officials of the diagnosis of certain diseases or conditions. AIDS cases and symptomatic infection are reported and maintained by patient name. Asymptomatic HIV infection is reported by name but maintained only by coded identifier.
<i>"Safer Sex"</i>	Sexual practices that reduce or eliminate the opportunity for the exchange of blood, semen or vaginal secretions.
<i>Seroconversion</i>	The process in which a person previously known to be HIV antibody negative converts to testing positive for HIV antibodies.
<i>Serologic Test</i>	Any number of tests performed on blood. In this context, referring to a test that measures antibodies to HIV.
<i>Seropositive</i>	A condition in which antibodies to a disease-causing agent are found in the blood; a positive reaction to a blood test. The presence of antibodies indicates that a person has been exposed to the agent. See HIV antibody positive.
<i>Sexual Intercourse</i>	As defined in RCW 9A.44.010 - "Sexual intercourse has its ordinary meaning and occurs upon any penetration, however slight; and also means any penetration of the vagina or anus, however slight, by an object, when committed on one person by another, whether such persons are the same or opposite sex, except when such penetration is accomplished for medically recognized treatment or diagnostic purposes; and also act of sexual contact between persons involving the sex organs of one person and the mouth or anus of another whether such persons are of the same or opposite sex." Referred to in this document as anal, vaginal and/or oral sex.
<i>Sexually Transmitted Disease (STD)</i>	Refers to the more than 25 infectious organisms (bacteria, viruses, mites, protozoa and fungi) that can be spread through sexual activity.
<i>Standard Precautions</i>	Term used in hospitals and some other health care settings. These recommendations are designed to prevent the transmission of bloodborne pathogens in these settings. Standard Precautions include all recommendations for universal precautions (blood or other potentially infectious materials of <u>all patients</u> should <u>always</u> be considered potentially infectious) plus the component of body substance isolation. See "universal precautions."
<i>Sterilization</i>	Destruction of microbial life by means of steam, gas or liquid agents.
<i>Subcutaneous</i>	Beneath or introduced beneath the skin (for example, subcutaneous injections).

<i>Syndrome</i>	A collection of signs and symptoms that occur together.
<i>Tuberculosis (TB)</i>	A bacterial infection caused by <i>Mycobacterium tuberculosis</i> . TB is usually transmitted when airborne droplets from someone with active infection are coughed or sneezed into the air and breathed in by someone who is susceptible to infection.
<i>Universal Precautions</i>	Term relating to procedures designed to prevent transmission of bloodborne pathogens in health care and other settings. Under universal precautions, blood or other potentially infectious materials of <u>all patients</u> should <u>always</u> be considered potentially infectious for HIV and other pathogens. Employees should take appropriate precautions using personal protective equipment like gloves to prevent contact with blood.
<i>Vaccine</i>	A substance that produces or increases immunity and protection against disease.
<i>Viral Load Test</i>	A test measuring the amount of HIV or hepatitis in an infected person's blood. Often used to measure the effectiveness of antiviral medications in treating infection.
<i>Viral Resistance</i>	When HIV becomes resistant to one or more of the classes of medication used to treat the infection. This may happen if the medications are not taken correctly.
<i>Virus</i>	An organism that can cause disease.
<i>HIV Western Blot Assay</i>	A test used to detect proteins specific to HIV. The test can be used to confirm ELISA/EIA test results (see ELISA/EIA test).
<i>Window Period</i>	The time it takes for an HIV-infected person to develop antibodies to HIV. With current testing methodologies, the window period may be 2-12 weeks after infection. The CDC still advises that a small number of people may take up to six months to show antibodies.
<i>WISHA</i>	Washington Industrial Safety and Health Act.
<i>“Works”</i>	The collective term for the syringe, needle, “cooker,” cotton, and rinse water - elements of the injection drug user's paraphernalia.

National Resources

National AIDS Hotline (English)	1-800-342-2437
National AIDS Hotline (Hearing Impaired)	1-800-243-7889
National AIDS Hotline (Spanish)	1-800-344-7432
National AIDS Information Clearinghouse	1-800-458-5231
National STD Hotline	1-800-227-8922

Curriculum Sources

Washington State Department of Health HIV Prevention & Education Services	1-800-272-2437 www.doh.wa.gov/cfh/hiv.htm
Department of Labor and Industries	1-800-423-7233 www.lni.wa.gov
Centers for Disease Control and Prevention	1-404-639-3311 www.cdc.gov

Washington Resources

Washington State HIV Hotline	1-800-272-2437
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Additional resources and community-based organizations may be identified by contacting the Washington State Regional AIDS Service Networks (AIDSNETs)

Region 1 (509) 324-1551
Spokane County Health District
West 1101 College Ave.
Spokane, WA 99201-2095
Counties: Adams, Asotin, Columbia, Ferry,
Garfield, Lincoln, Okanogon, Pend Oreille,
Spokane, Stevens, Walla Walla and Whitman

Region 3 (425) 339-5211
Snohomish Health District
3020 Rucker Ave. Suite 208
Everett, WA 98201-3900
Counties: Island, San Juan, Skagit, Snohomish
and Whatcom

Region 5 (253) 798-4791
Tacoma-Pierce County Health Department
3629 S. "D" St. MS: 062
Tacoma, WA 98418-6813
Pierce and Kitsap Counties

Region 2 (509) 249-6503
Yakima Health District
104 North First St.
Yakima, WA 98901-2667
Counties: Benton, Chelan, Douglas,
Franklin, Grant, Kittitas, Klickitat and
Yakima

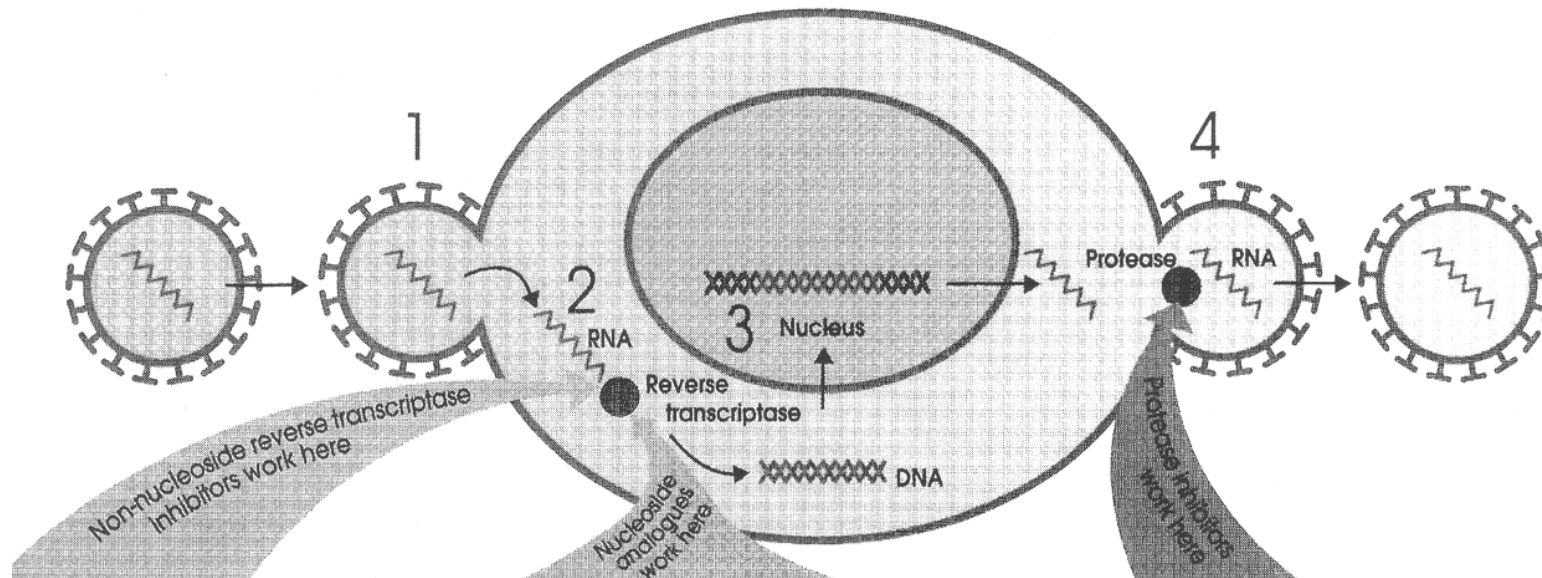
Region 4 (206) 296-4649
Public Health Seattle & King County
400 Yesler Way Suite 300
Seattle, WA 98104-2615
King County

Region 6 (360) 397-8086
Clark County Health Department
PO Box 9825
Vancouver, WA 98666-8825
Counties: Clallam, Clark, Cowlitz
Grays Harbor, Jefferson, Lewis, Mason
Pacific, Skamania, Thurston and
Wahkiakum

ANTIRETROVIRAL AGENTS FOR HIV

Stages of HIV reproduction

1. HIV enters a CD4+ cell.
2. HIV is a retrovirus, meaning that its genetic information is stored on single-stranded RNA instead of the double-stranded DNA found in most organisms. To replicate, HIV uses an enzyme known as reverse transcriptase to convert its RNA to DNA.
3. HIV DNA enters the nucleus of the CD4+ cell and inserts itself into the cell's DNA. HIV DNA then instructs the cell to make many copies of the original virus.
4. New virus particles are assembled and leave the cell, ready to infect other CD4+ cells.



Non-nucleoside reverse transcriptase inhibitors

The newest class of antiretroviral agents, non-nucleoside reverse transcriptase inhibitors (NNRTIs) stop producing by binding directly onto reverse transcriptase and preventing the conversion of RNA to DNA. These drugs are called “non-nucleoside” inhibitors because even though they work at the same stage as nucleoside analogues, they act in a completely different way.

VIRAMUNE® (nevirapine)
 Rescriptor® (delavirdine mesylate)
 Sustiva™ (efavirenz)

This information courtesy of Boehringer Ingelheim Pharmaceuticals. Medications may change frequently. New medications are being tested and are not reflected in this document. This list was accurate as of December 2001.

The first effective class of antiretroviral drugs was the nucleoside analogues. They act by incorporating themselves into the DNA of the virus, thereby stopping the building process. The resulting DNA is incomplete and cannot create new virus.

Ziagen® (abacavir sulfate)
 Retrovir® (zidovudine—also known as ZDV or AZT)
 Epivir® (lamivudine—also known as 3TC)
 Videx® (didanosine—also known as ddl)
 Videx® EC (didanosine—also known as ddl)
 Hivid® (zalcitabine—also known as ddC)
 Zerif® (stavudine—also known as d4T)
 Combivir® (lamivudine/zidovudine)
 Trizivir™ (abacavir sulfate/lamivudine/zidovudine)

Protease inhibitors work at the last stage of the virus reproduction cycle. They prevent HIV from being successfully assembled and released from the infected CD4+ cell.

Invirase® (saquinavir mesylate)
 Crixivan® (indinavir)
 Norvir® (ritonavir)
 Viracept® (nelfinavir mesylate)
 Fortovase™ (saquinavir)
 Agenerase® (amprenavir)
 Kaletra™ (lopinavir/ritonavir)

Note: This information is provided for background only.

